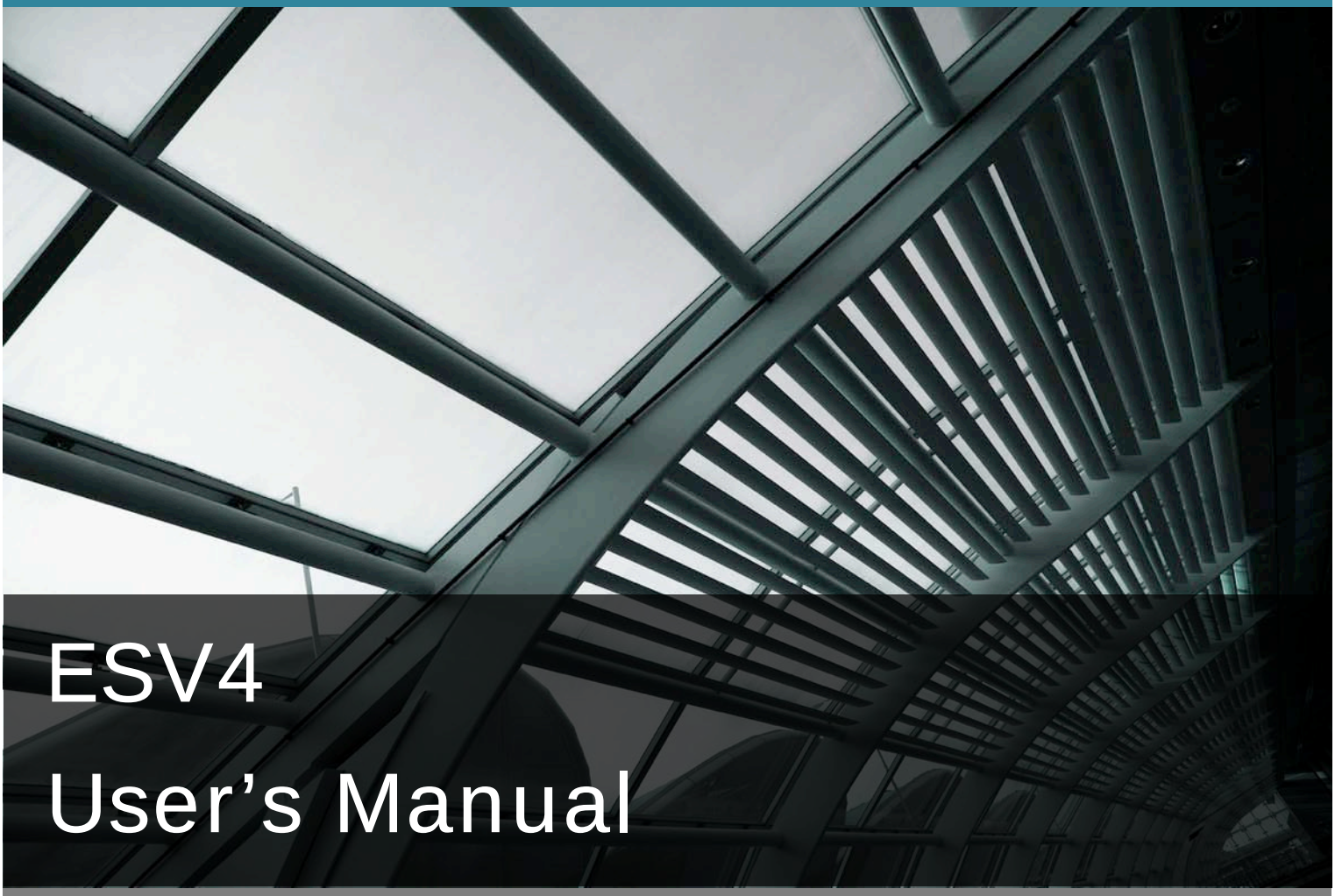


ESV4
User's Manual

4CH Network Video Recorder with Local Display

surveillix sv

Version 1.0.0

Table of Contents

System Overview 5
Front View 5
Rear View 6
Part names 7
LED Definition 7

Installation 8
HDD Installation 8
Connect to the NVR 13
Use Device Search Utility 13
Access the NVR with its default IP address 17
Set up Password 18
Camera Installation 19
Add a Camera -- Automatic Search 19
Add a camera manually 21

Live View (Web Interface) 22
Live View 22
Retrieve camera's video stream 22
Retrieve camera's status 23
Perform Sequence Viewing 23
PTZ Control 25
Perform PTZ Preset Viewing 26
Preset Point Viewing 27
Auto Pan Viewing 27
Preset Point Sequence Viewing 28
Live Video Controls 28
Display ratio and full screen 29
Take a snapshot of a live video 29
Perform Digital PTZ 33
Adjust Brightness for the Live Video 35
Adjust Contrast for the Live Video 36
Change Web UI Display Language 37
Live View through iPhone Safari Browser 38
Live View through Blackberry Phones 41

Playback (Web Interface) 45
Playback 45
Methods to Search Playback Videos 45
Search by time chart 46
Search by event 47
Play by specific time 49
Search by event (Most Recent) 50
Certain functions you can perform to the playback video 51
Take a snapshot of a playback video 52
Adjust Brightness for the Playback Video 56
Adjust Contrast for the Playback Video 57

Export Playback Videos to AVI Files 57
Play Exported Playback Videos with NVR Media Player 61
Open Event Snapshot images with NVR Media Player 63

NVR Setup -- System Configurations (Web Interface) 63
Network Setup 63
Network Settings 64
DHCP Server 65
DDNS Service 66
Time and Date 72
User Account 73
Add a new user 74
Change the password of the "admin" account 75
Group Privilege 76
Disk Setup 78

NVR Setup -- Channel Configurations (Web Interface) 79
Add a camera 79
Automatic Search 79
Add a camera manually 84
OSD Settings 85
PTZ Setting 87
PTZ Preset Settings 87
PTZ Preset Sequence 88
E-Map Setting 90
Local Map Setting 90
Google Map Setting 92

NVR Setup -- Event Configurations (Web Interface) 94
Event Configuration 94
General Settings 95
DI Settings 97
Event Servers 98
Configuring an FTP server 98
Configuring an SMTP server 100
Event Triggers 101

NVR Setup -- Recording Configurations (Web Interface) 102
General Settings 102
General Settings 103
Schedule Recording 107
To configure a schedule recording 107

NVR Setup -- System Options (Web Interface) 108
Device Information 108
Device Information 109
Logs and Reports 110
Maintenance 111
Reboot the NVR at a specific time automatically 112
Firmware Upgrade 112

Through the web interface 112
Upgrade through USB thumb drive 114
Reset the NVR to Factory Default 115
Disk Status 116
USB Backup 117
Things to pay attention to the USB Backup function 118
Play the backup file with the NVR Media Player 119

Local UI from HDMI Output 123
Live View 123
Login screen 123
Remote control 125
Live View 128
Side menu 129
Sequence view 134
PTZ Control 138
Add preset points 138
Preset point sequence view 139
Manual Recording 141
Take snapshot 143
PIP (Picture-in-picture) Event Video 145
Turn on Audio 146
Full Screen 147
Display video in its original size 148
Detail channel status 149
Dashboard 151
Power off 152
Playback 153
Time Chart 155
Export recorded data 157
Camera Setup 159

Specifications 168

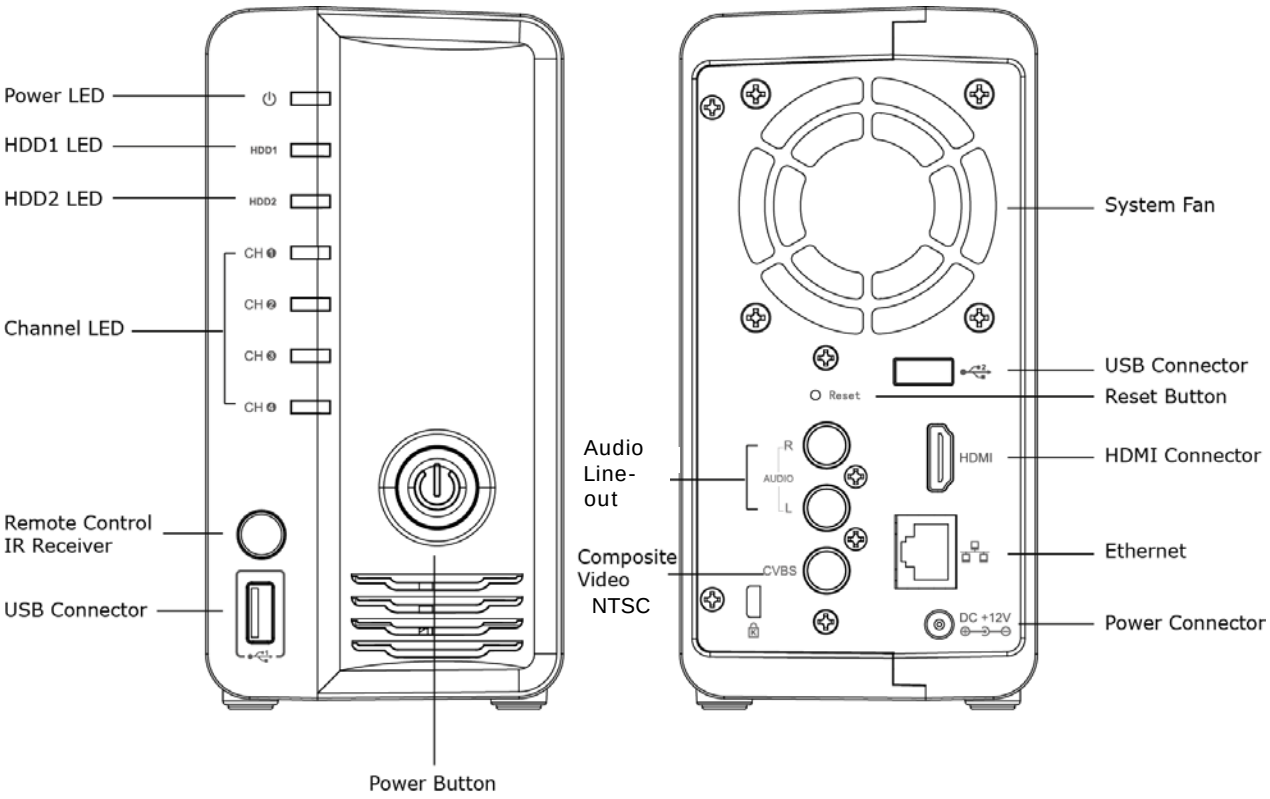
Technology license Notice 170
About the software 170

System Overview

Front View

Rear View

Part names



LED Definition

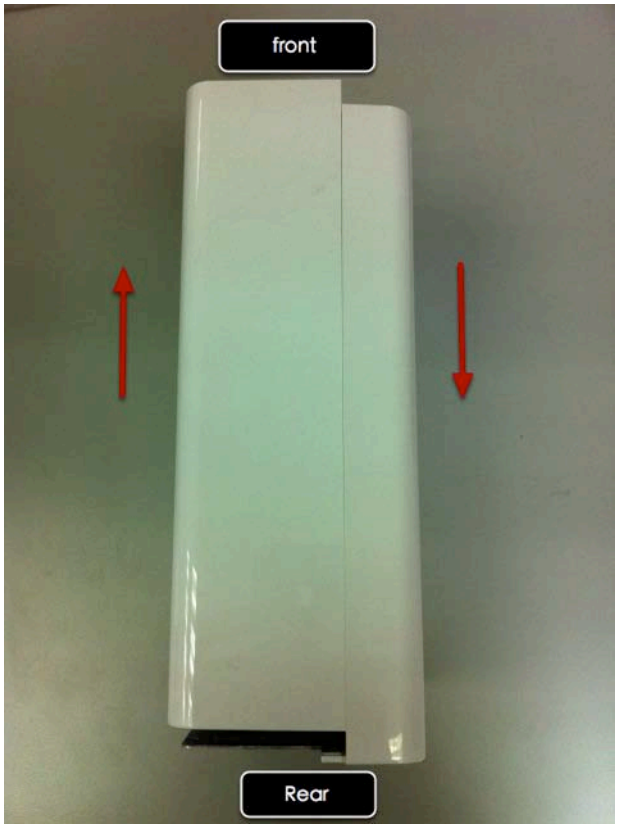
Power	Green	Solid when system is fully started.
	Red	Solid red when system is off, but power cord remains plugged in.
	Amber	Blinking during system initialization, reboot, and firmware upgrade.
	Off	When system is off and the power cord is not plugged in.
HDD1/2	Green	Solid green when disk is online.
	Red	Solid red when disk error.
	Amber	Solid amber when it's recording. Blinking amber when the disk is recycle.
	Off	No disk, or disk is offline.
Channel 1~4	Green	Solid green when it's online. Blinking during event triggered.
	Off	Disconnected, or no camera is configured.

Installation

HDD Installation

Locate the screws highlighted above on the back of the NVR.

Use a Philips screwdriver to release the screws.



Slide open the case as shown above.

One side of the housing can be detached as shown above.

Install the top HDD by attaching it to the corresponding SATA cable first.

Make sure the HDD is securely attached.

Place the HDD to the tray and make sure the screw holes on the HDD are aligned with the ones on the tray.

Secure the HDD with the screws provided in the accessory box with a Philips screwdriver. There are four for each HDD; two for each side of the tray.

Slide the side housing back to the unit.

Secure the housing with the screws highlighted above.

NOTE:
Maximum capacity of each hard disk drive is 3TB.
Do not use hard disk drives with power saving functions such as Intellipower.
For a list of compatible hard disk drives, visit www.toshibasecurity.com."

Connect to the NVR

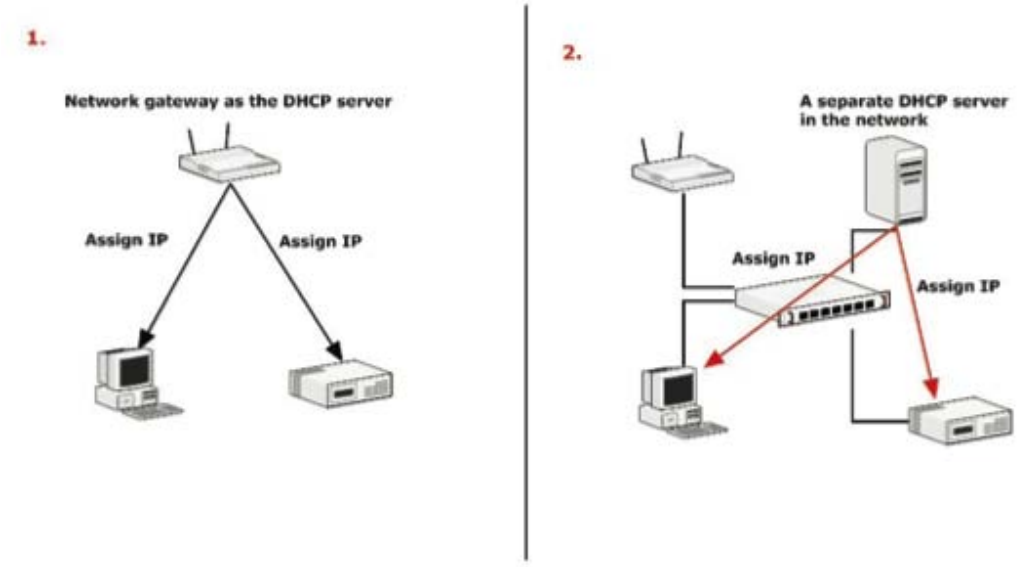
There are various ways you can connect to the NVR and below are the suggested methods for different network setup:

Through the browser from another PC on the network:

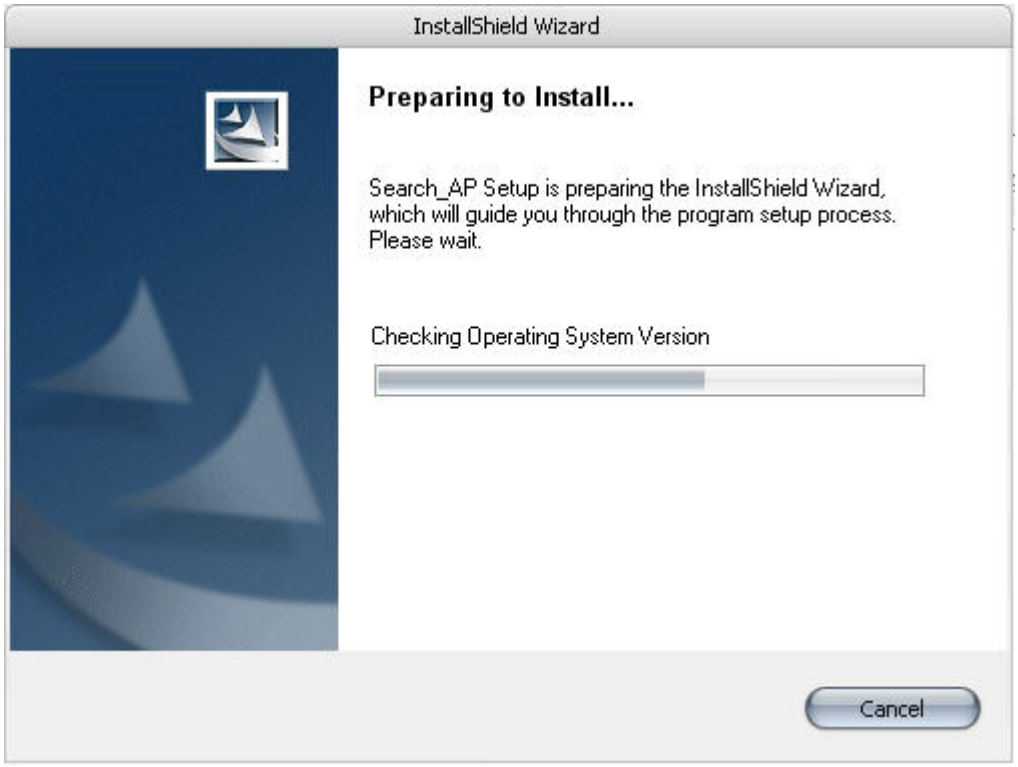
• The NVR is placed in a network with a DHCP server: Connect to the NVR by using **"NVR Device Search" Utility**

• The NVR is placed in a network without DHCP server (or you are connecting to it directly): **Access the NVR with its default IP**

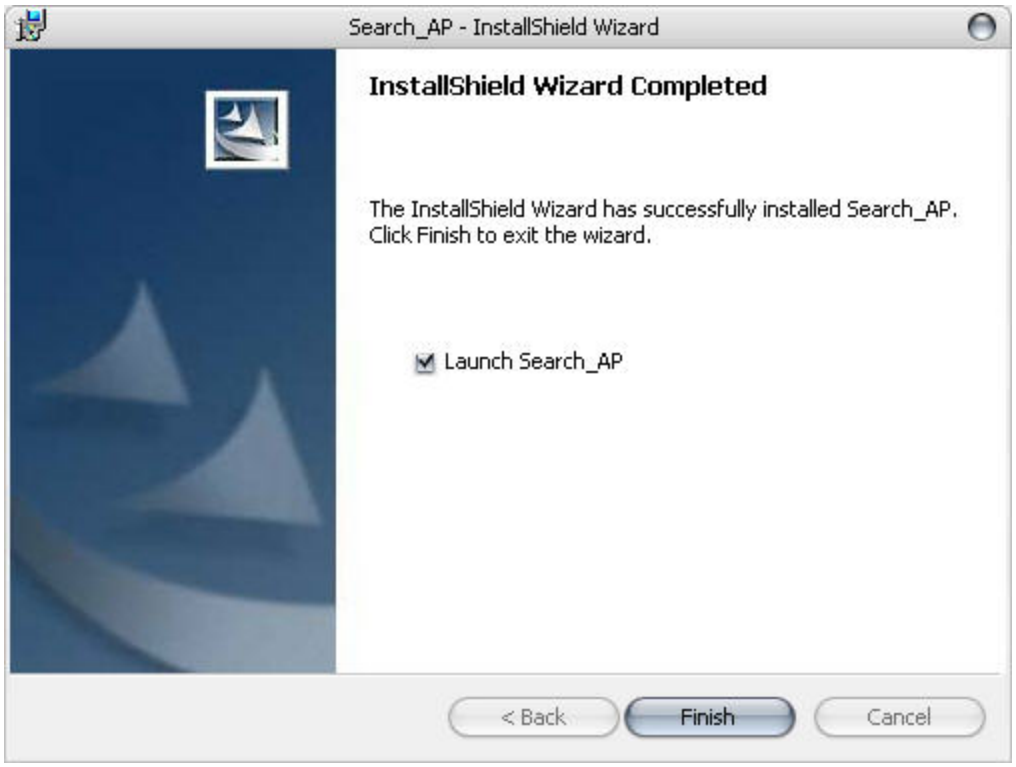
Use Device Search Utility



If the NVR is placed in a corporate network or a local area network where a DHCP server is already presented, run the "NVR Device Search" utility from a computer that is on the same network and locate the NVR with its IP address that is assigned by the top-level DHCP server.

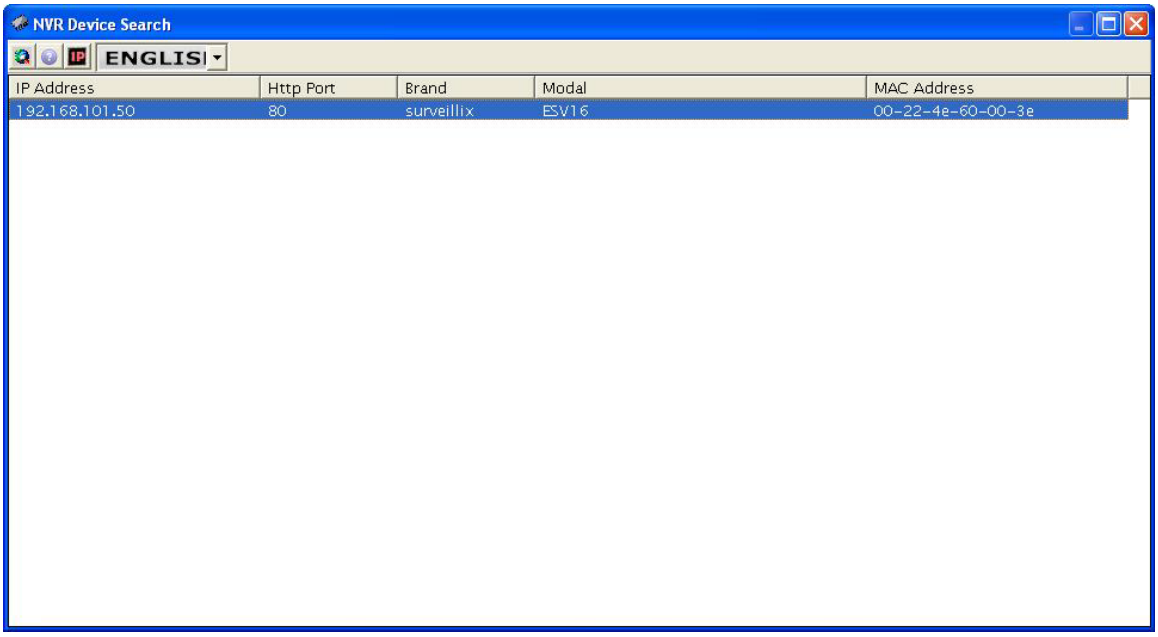

InstallShield Wizard
Preparing to Install...
Search_AP Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Checking Operating System Version
Cancel

To begin, launch the "NVR Device Search" utility from the CD and proceed with the installation:

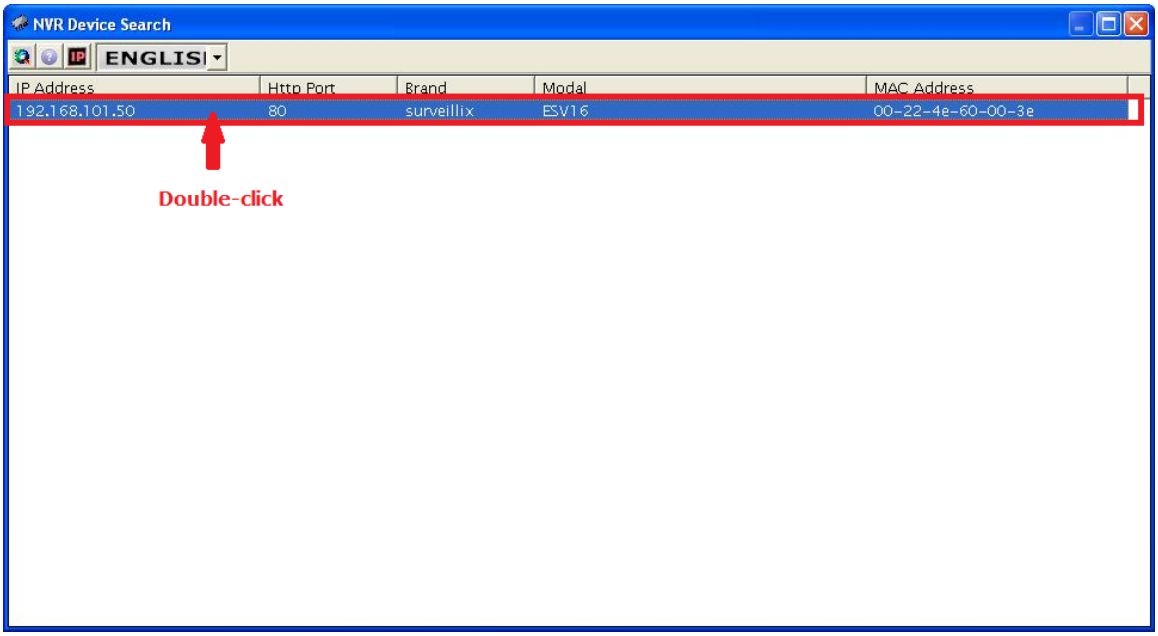


Once the installation is complete, check the "Launch the Search AP" option and click "Finish".

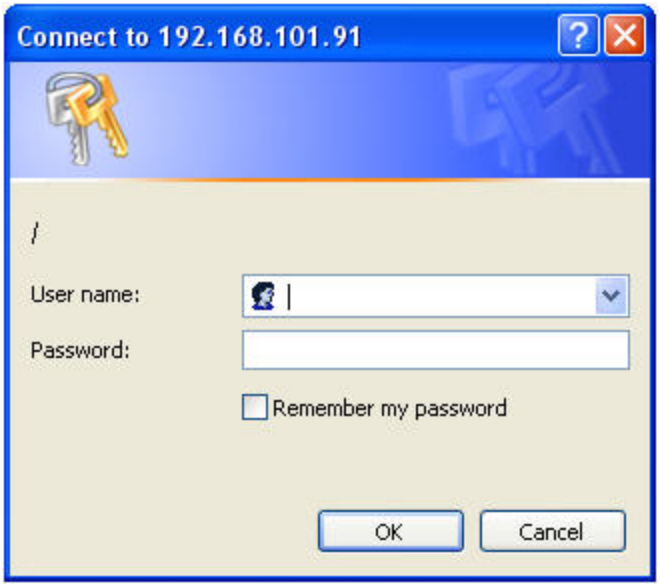
The search should start automatically and its status should be displayed.



The NVR should be located and its IP address should be displayed.

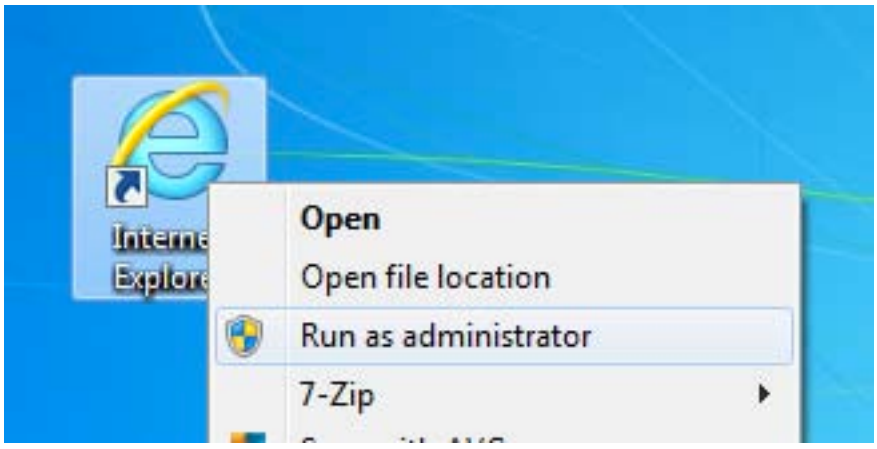


Double-click on an NVR and the search program should automatically access the NVR's web administration page from your default browser.



You will be prompted for the NVR's username and password. Enter its default username "**admin**" and password "**admin**" and then click "OK" to enter the system.

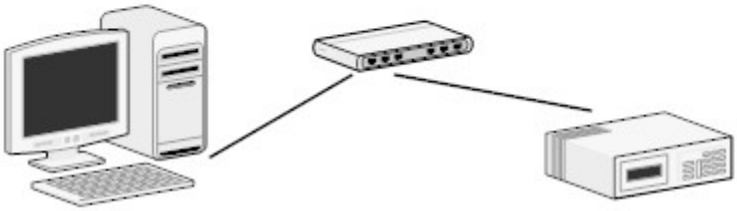
- Please make sure you are using Internet Explorer 7 or above (IE 10 is NOT yet supported).
- If you are running Windows Vista or 7, please make sure you are running Internet Explorer with the "administrator" privilege.



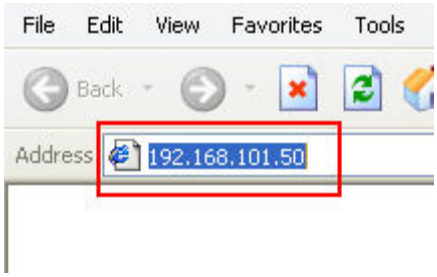
Access the NVR with its default IP address

1.

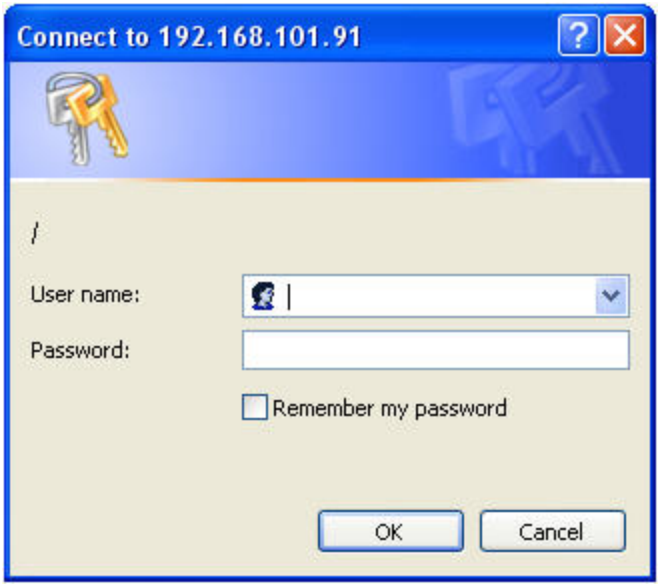
2.



The NVR comes with a pre-configured static IP "**192.168.101.50**". However, it is only used when there is no DHCP server presented in the network. The NVR will turn on its DHCP server function and act as the DHCP server in the network. To connect to the NVR, use a PC that is on the same network over a switch or hub, or connect the PC directly to the NVR using a crossover CAT5 Ethernet cable.

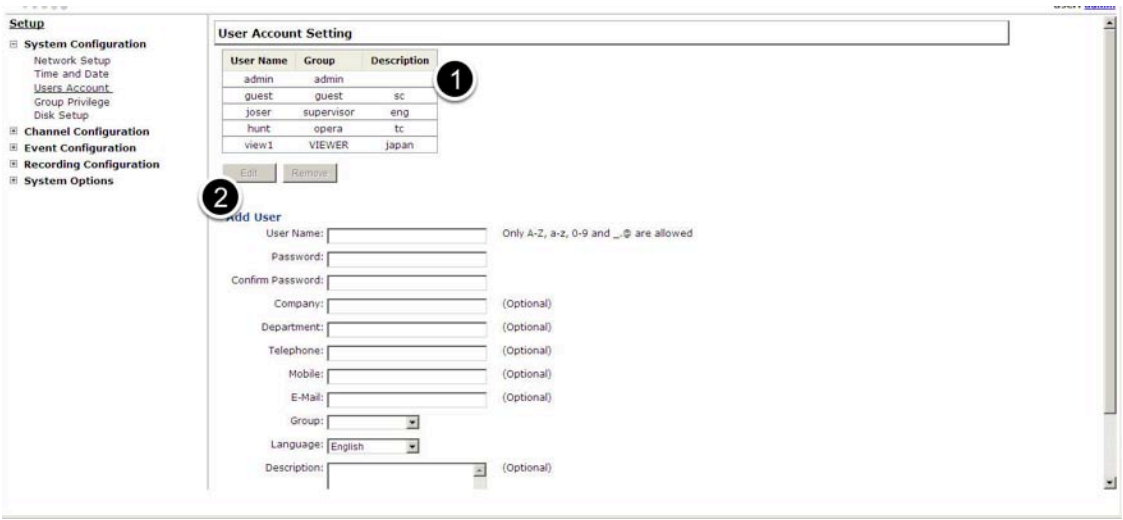


The PC that is connected directly to the NVR (or within the same local area network) should receive an IP from the NVR. Simply access the NVR from your web browser with its IP address



Again, you should be prompted for the username and password. Enter its default username "**admin**" and password "**admin**" and then click "OK" to enter the system

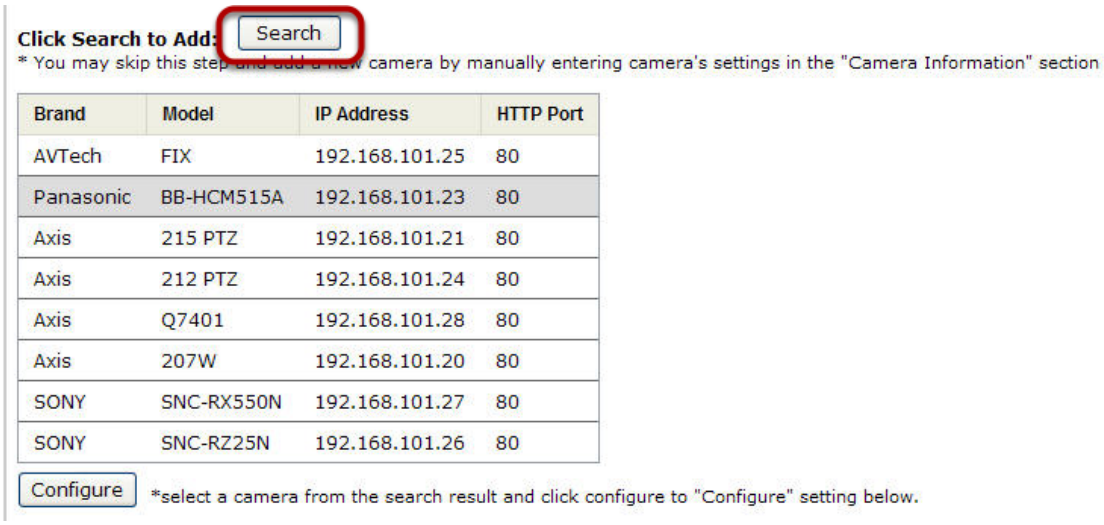
Set up Password



The default login username and password is admin/admin. To change the password of the admin account, go to "Setup" --> "System Configurations" --> "User Account", click on the "admin" account in the account list then press the "edit" button to change its password. Finally, click "Apply" to save the change.

Camera Installation

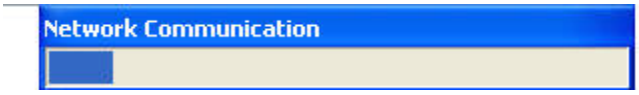
Add a Camera -- Automatic Search



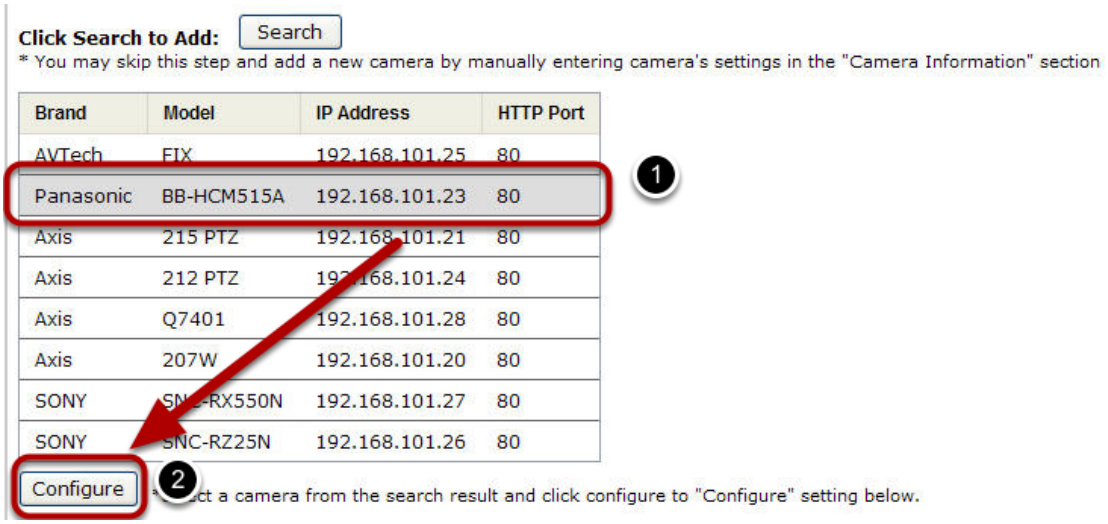
Click the "Search" button to perform the camera search.

Internet Explorer - Security Warning
Do you want to install this software?
Name: ActiveX Control of Media Client
Publisher:
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

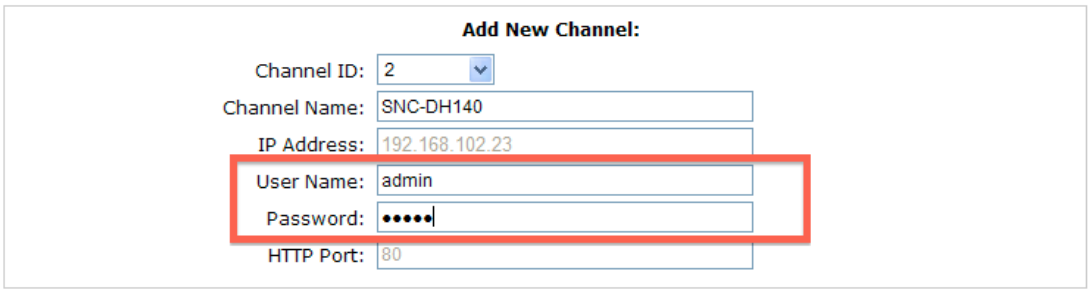
You should be prompted to install Active Control component in order for the search to function properly. Go ahead and click "Install"



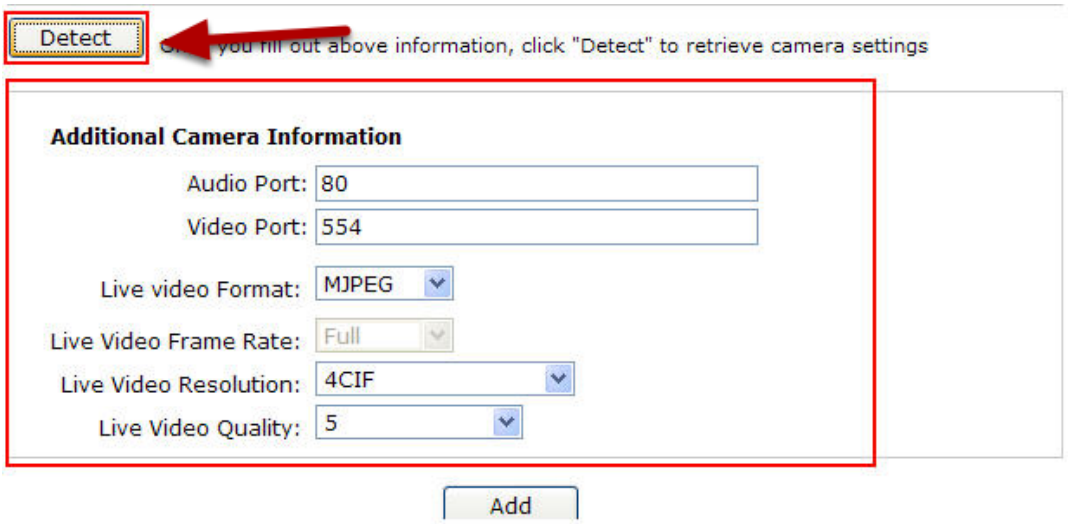
After that, the search should begin and its status should be displayed:



Found cameras should be listed and simply select a camera from the list and press "Configure"

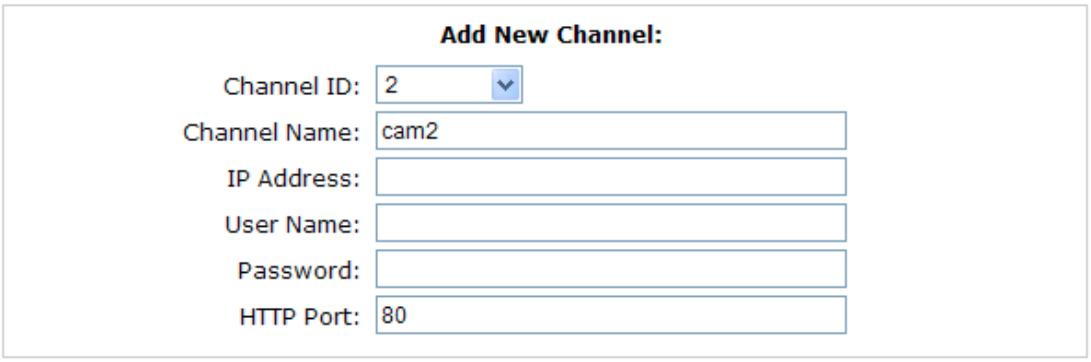


Its corresponding information should be displayed in the "Camera Information" section. Enter its username and password and select the channel ID and name the camera.



Click on "Detect" to establish connection between the recorder and the camera. If a connection is established successfully, the camera's detailed information will be displayed as below.
Adjust its video format, frame rate, resolution or bit rate...etc if you wish and then click "Add" to finish adding the camera

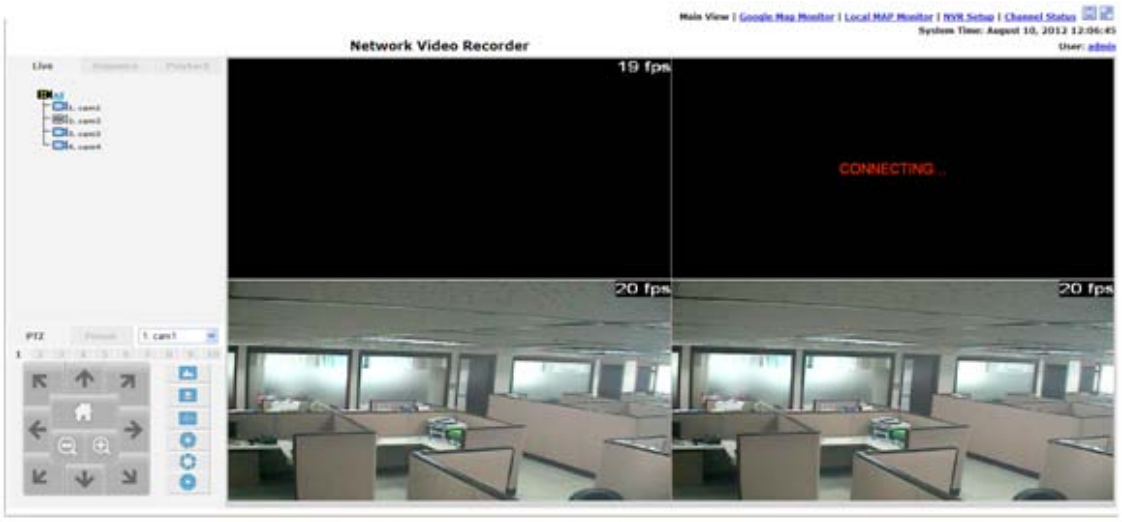
Add a camera manually



Simply follow the instruction described above but instead of using the "Search" function, enter the camera's IP address and credential in the "Camera Information" manually.

Live View (Web Interface)

Live View



The "Live View" page provides the following functions:

- Retrieve camera's video stream
- Retrieve camera's status
- Perform Live Sequence Viewing
- PTZ Control
- Perform PTZ Preset Sequence viewing
- Perform manual recording
- Take snapshot
- Receive audio of a video stream
- Send audio
- Change web UI display language

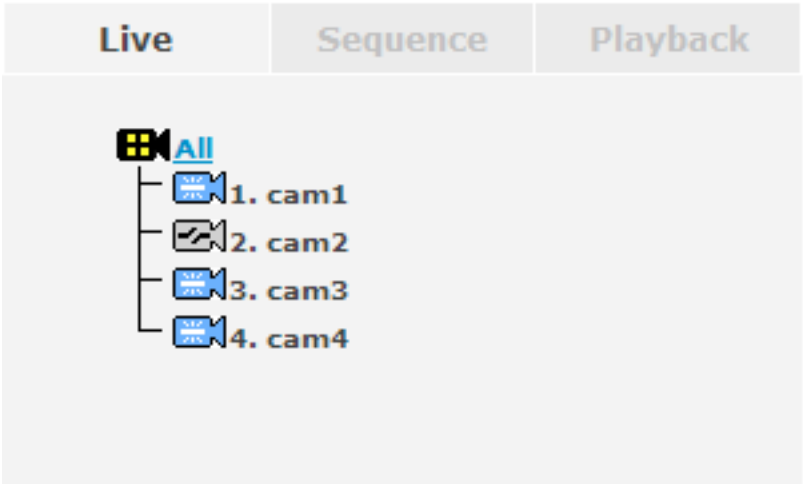
Retrieve camera's video stream

The camera list is expanded and displayed on the Live View page:

- Click "All" to display videos of all 4 channels
- Click on any camera individually to display video in single-view mode

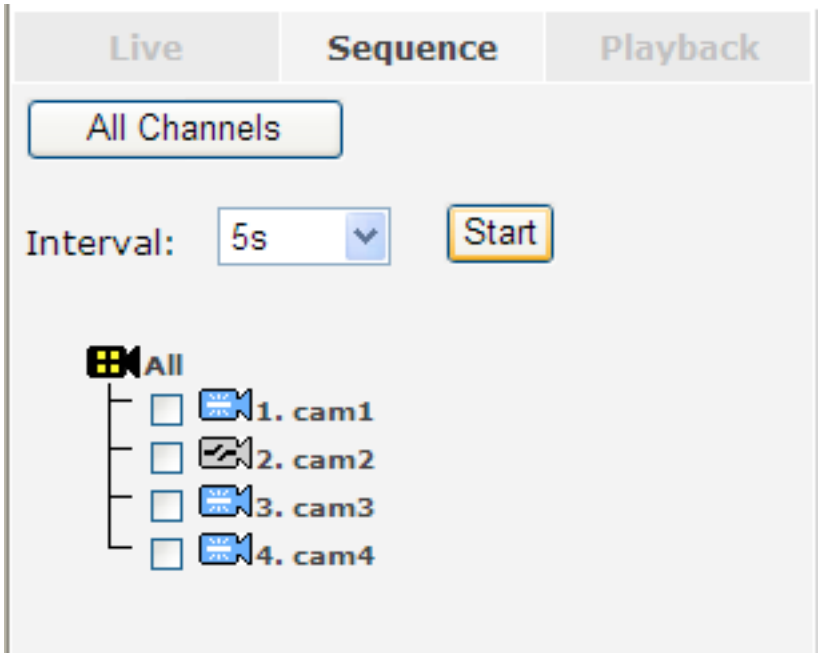
Retrieve camera's status

The camera list can show each camera's current status. Each status is represented with different colors:

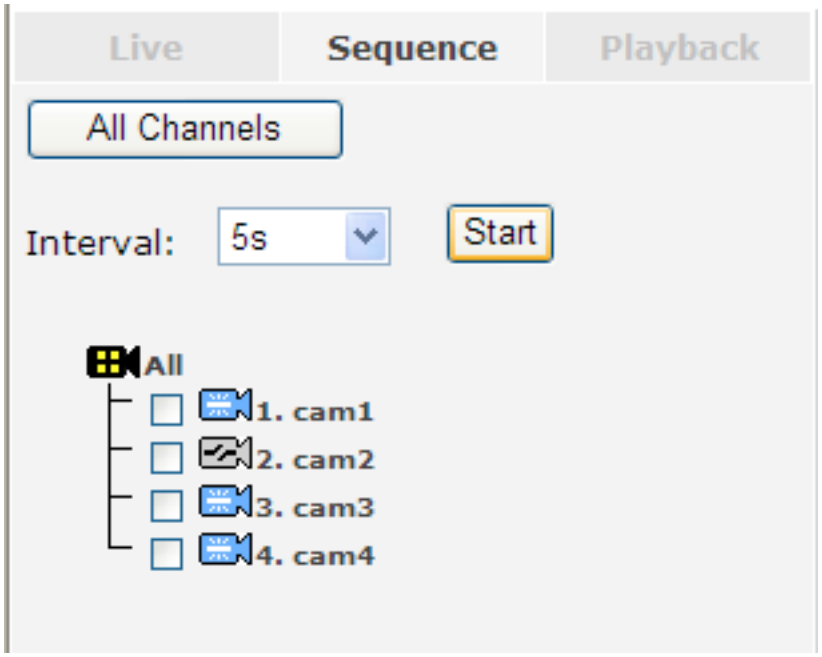


Blue: Connected
Gray: Disconnected
Red: Performing event recording
Green: Recording (manual/continuous/schedule)
White: This channel is not configured with any camera

Perform Sequence Viewing

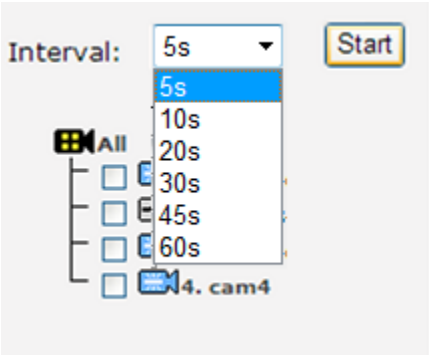


Sequence view is a function that allows you to view multiple video streams from certain cameras in sequence automatically without having to select them one by one. To perform sequence view, select "SEQ View" from the upper-left hand corner



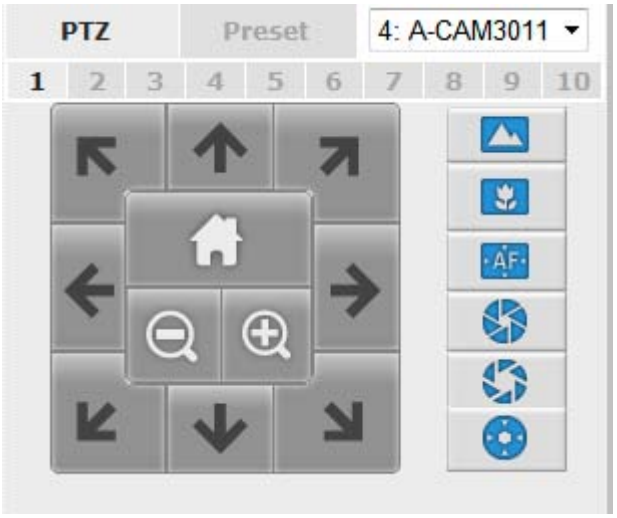
Next, select one or more camera(s) or camera group(s) for sequence viewing:

Select "all" to start sequence viewing in quad view
Select "camera" individually to start sequence viewing in single video view

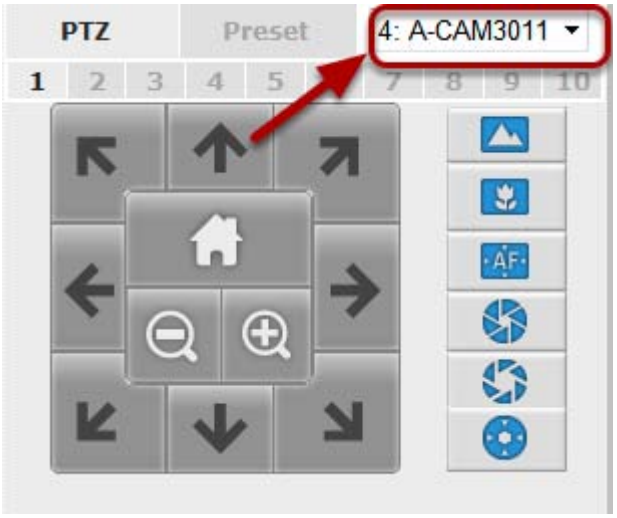


Then, select dwell interval from the drop-down menu and click "Start" to begin.

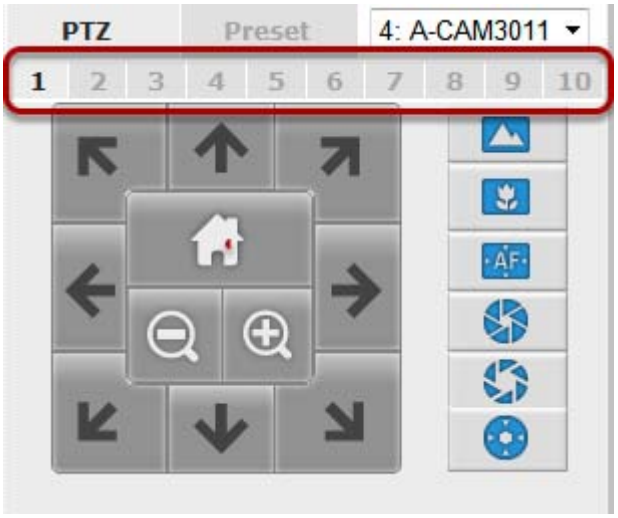
PTZ Control



PTZ control provides functions to pan, tilt, and zoom a PTZ camera as well as the ability to adjust camera focus and iris.

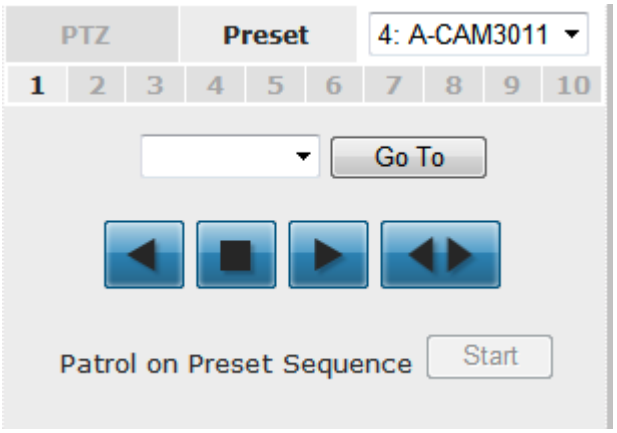


Only PTZ capable cameras will be listed in the drop-down menu



The bar highlighted above controls the moving angle. Larger number means bigger movement angle.

Perform PTZ Preset Viewing

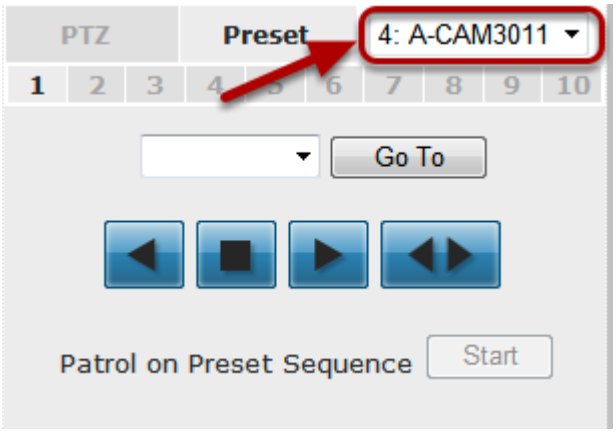


There are three functions provided in the "Preset" section:

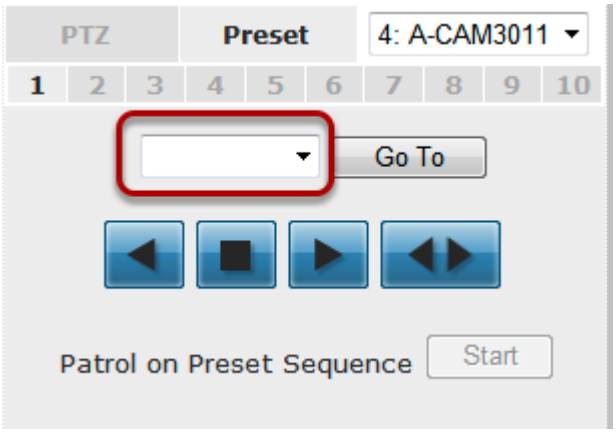
- Perform preset point viewing of a particular camera
- Auto pan a particular camera
- Perform preset point sequence viewing

(In order to use this function, one must configure camera's preset points in "NVR Setup" >> "Channel Configurations" >> "PTZ Preset" first)

Preset Point Viewing

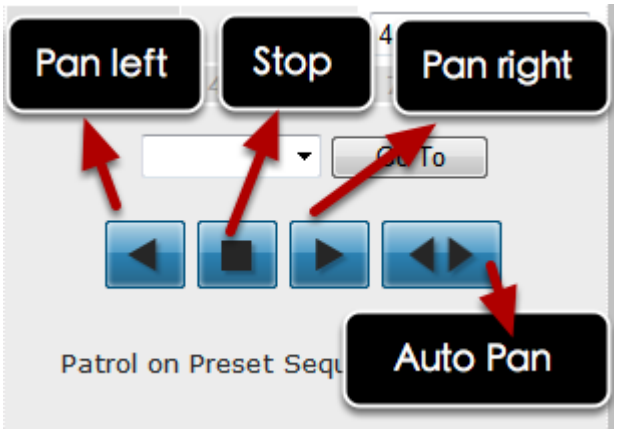


Start by selecting a PTZ camera from the drop-down list



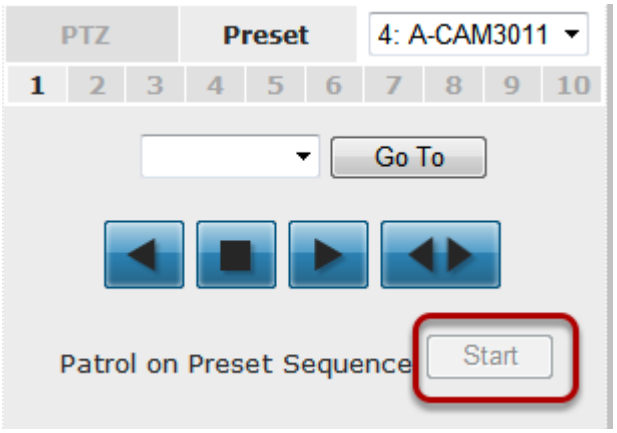
Its available PTZ preset points will be listed in the drop-down list shown below. Click "Go to" to move to the selected position.

Auto Pan Viewing



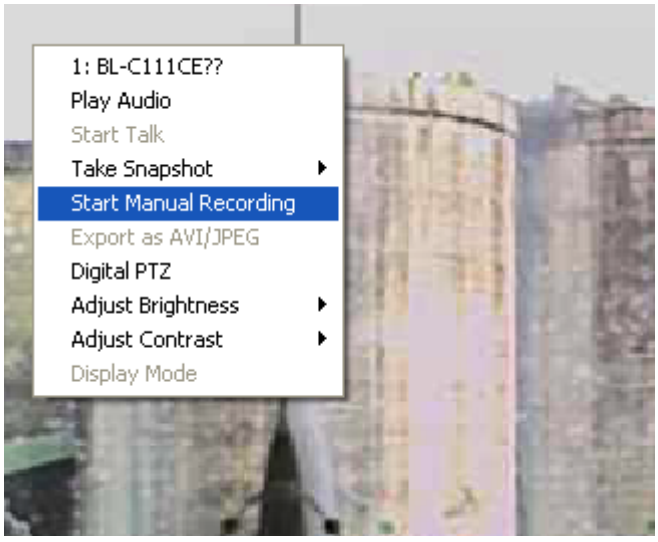
Use the Auto Pan control buttons to pan right, left and stop auto pan
**** Certain cameras do not support bi-directional pan movements. Use the "Auto pan" button for such cameras***

Preset Point Sequence Viewing



This function allows you to view multiple preset points from a video of a camera without having to select them one by one. Once you have defined the preferred preset points in "**Channel Configurations**" >> **"PTZ Setting"** >> "**PTZ Sequence**" under the "**Setup**" menu, click "Start" in the lower-left hand corner in Live View under "Preset" and the recorder will begin to display videos from those preset points in sequence automatically until you click "Stop"

Live Video Controls

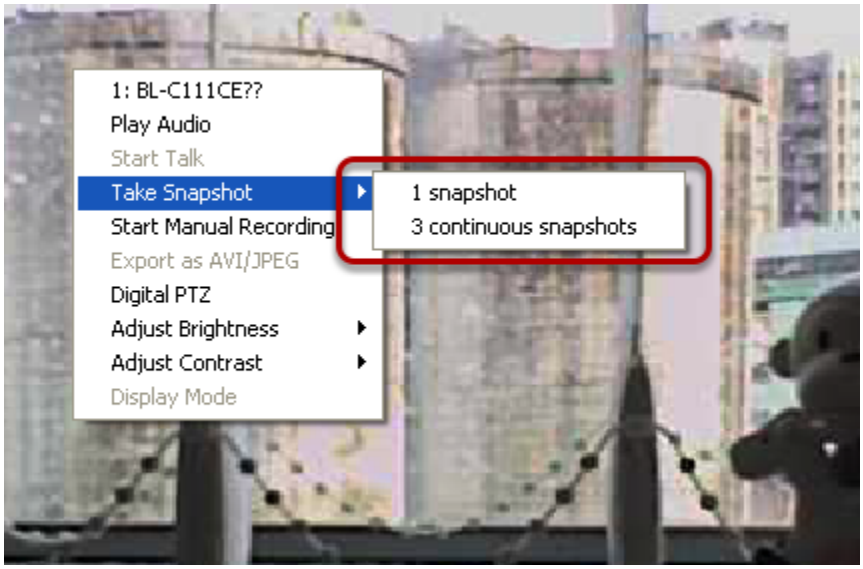


Users can perform certain functions to a live view video. They can be accessed by right clicking on a video.

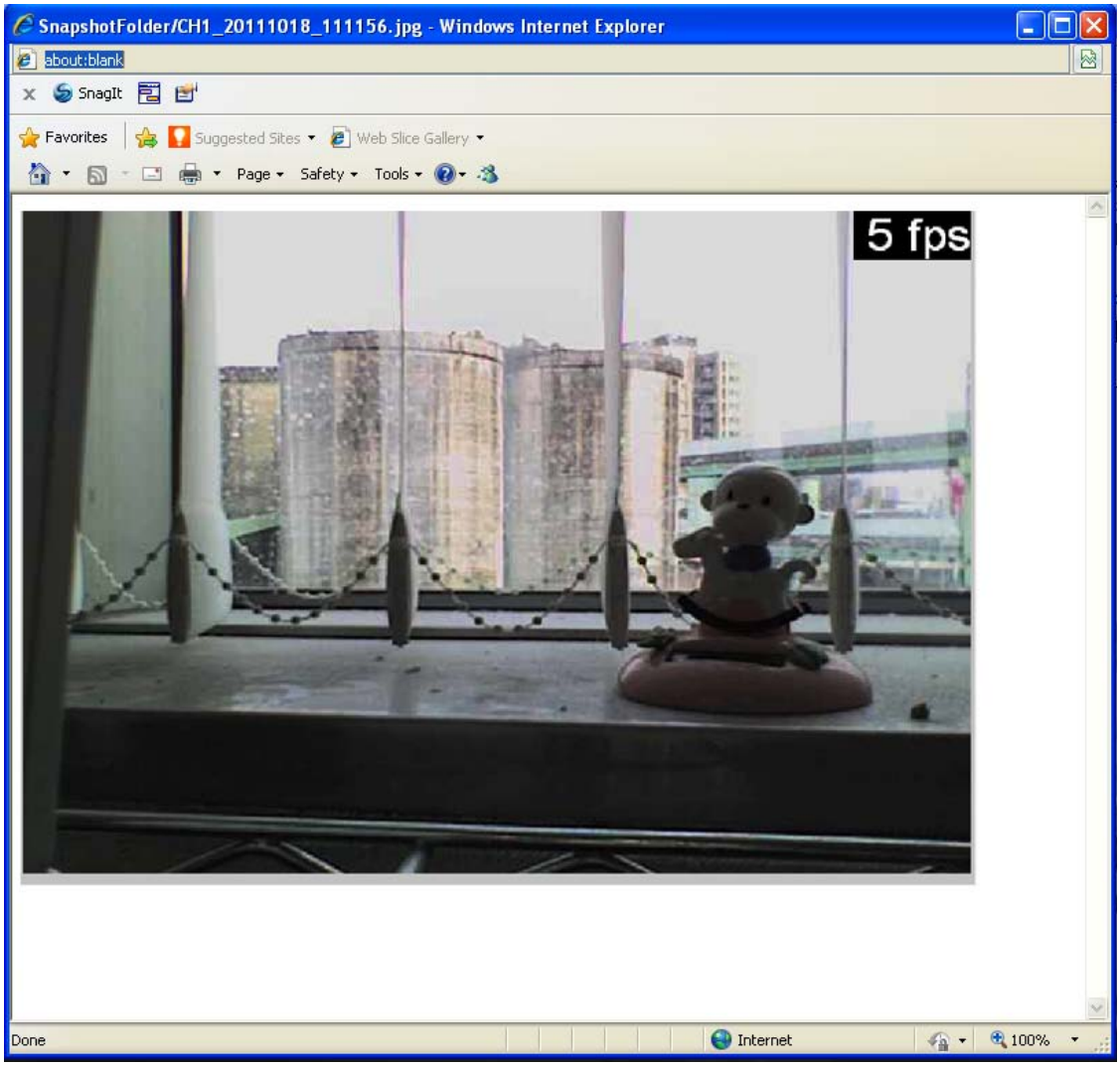
Display ratio and full screen

By default, the videos are set to fill the whole video window, to display its original size or ratio, use the button in the upper-right hand corner.

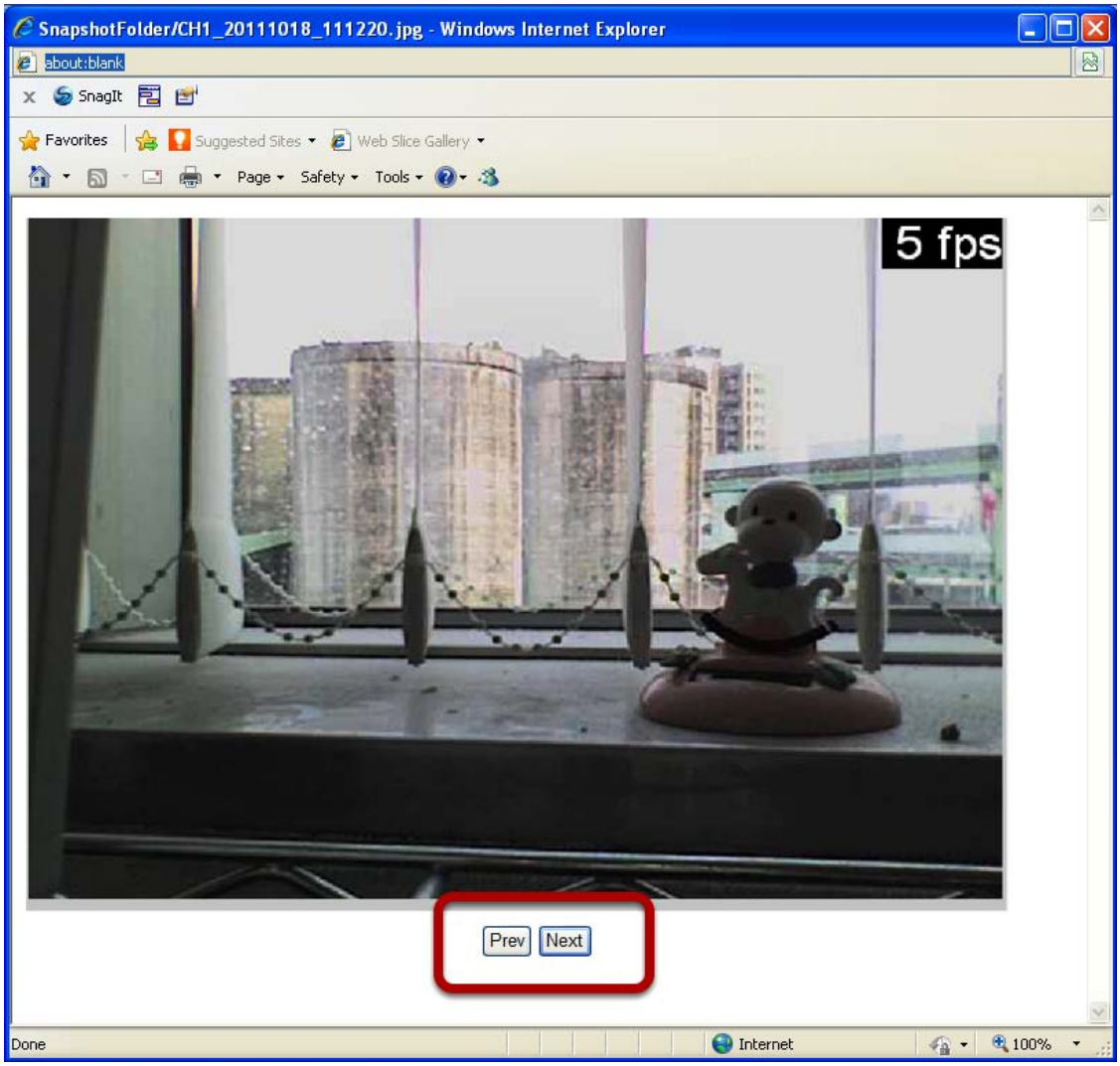
Take a snapshot of a live video



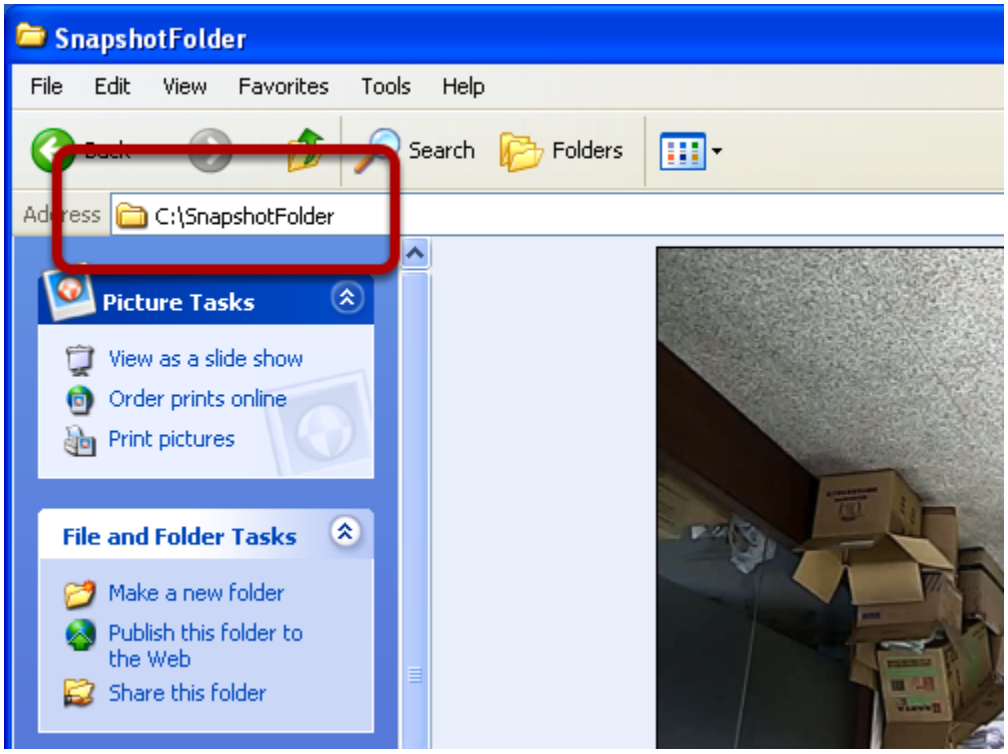
To take a snapshot of a live video, right-click on the video and select "Take Snapshot". You are given with options to take 1 snapshot or 3 continuous snapshots.



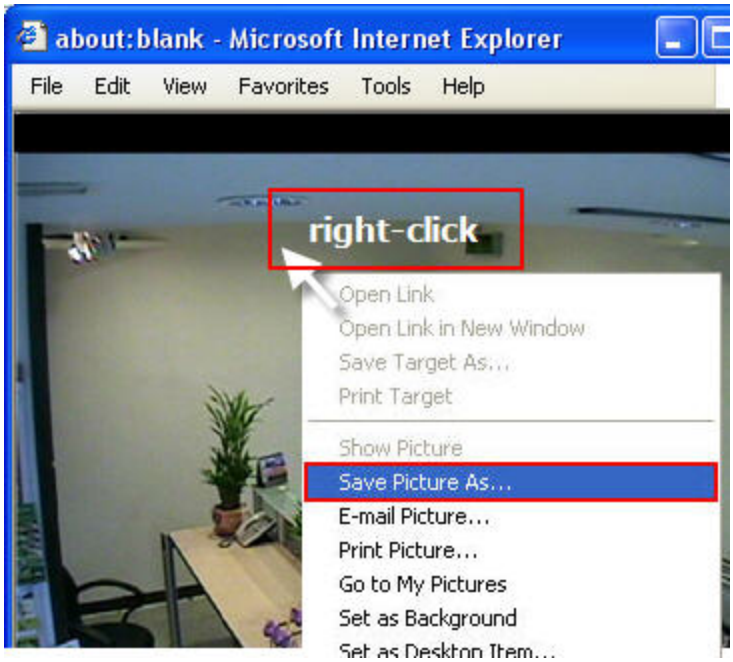
The new window displays the snapshot.



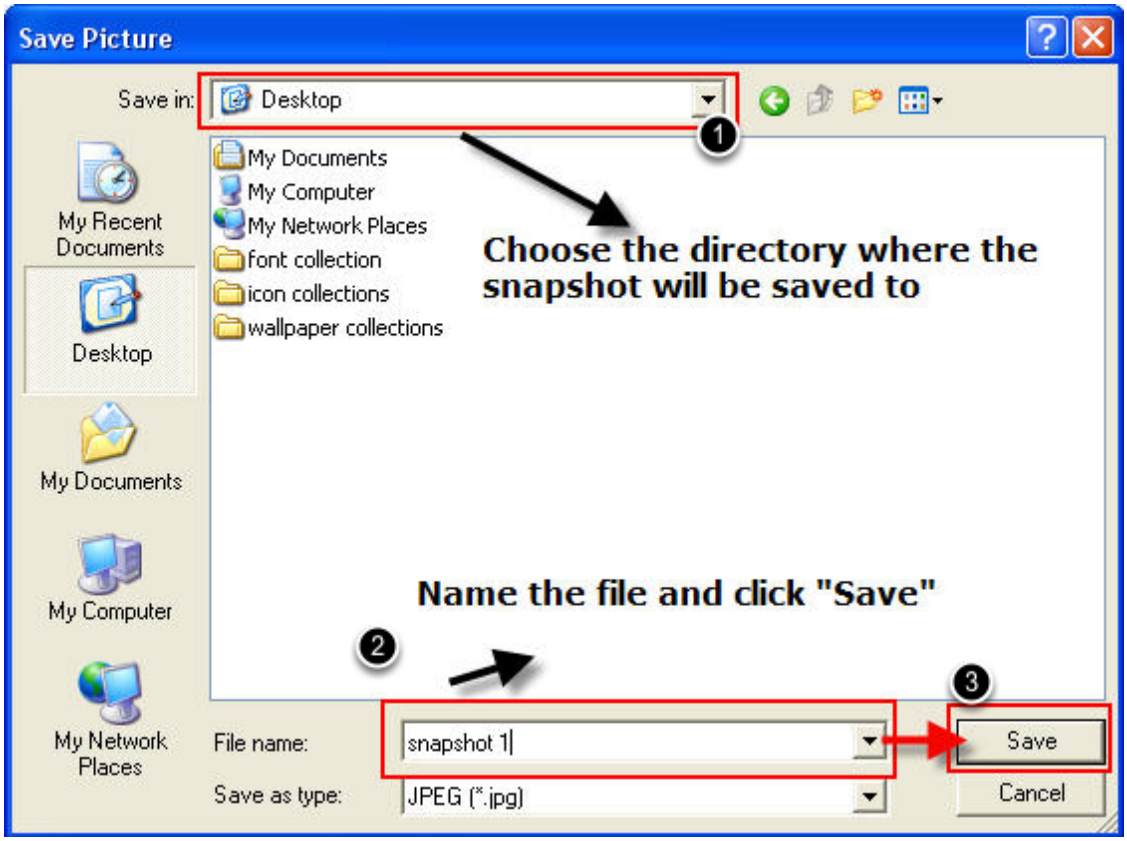
If the "3 continuous snapshots" option is chosen, the new window displays snapshots and lets you view them individually by using the "Prev", "Next" buttons shown above.



However, as soon as a snapshot selection is made, the snapshots are automatically saved to x:\SnapshotFolder ("x" represents the partition where Windows is installed, e.g.: C:\)

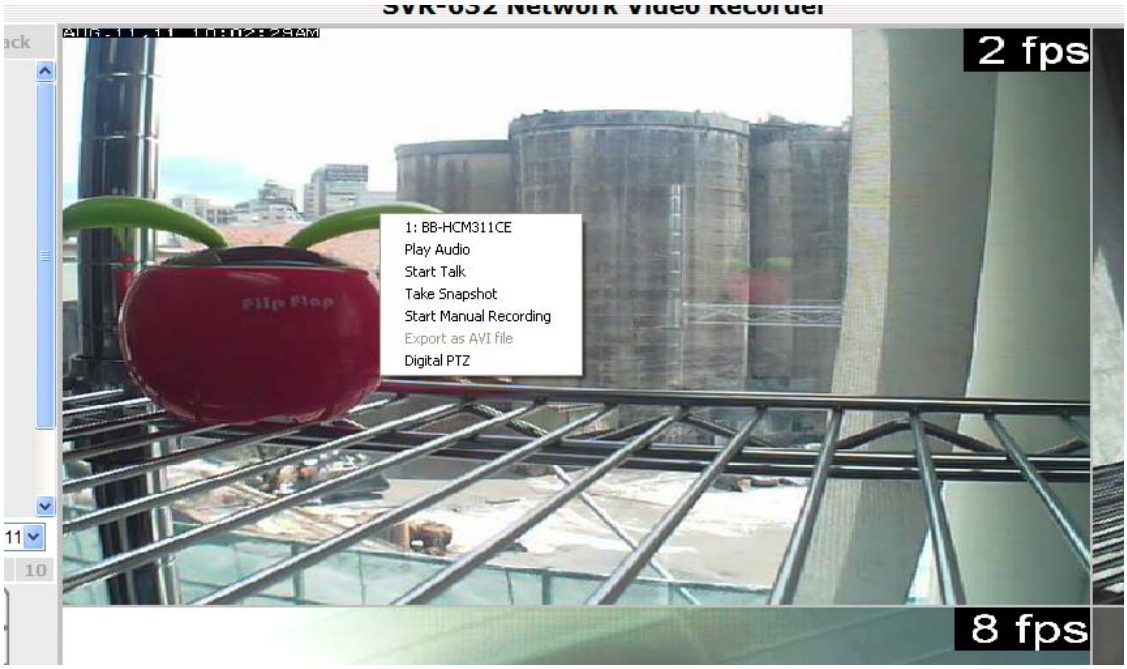


You can right-click anywhere on the image and select "Save Picture As..." to save the images somewhere else if you wish.

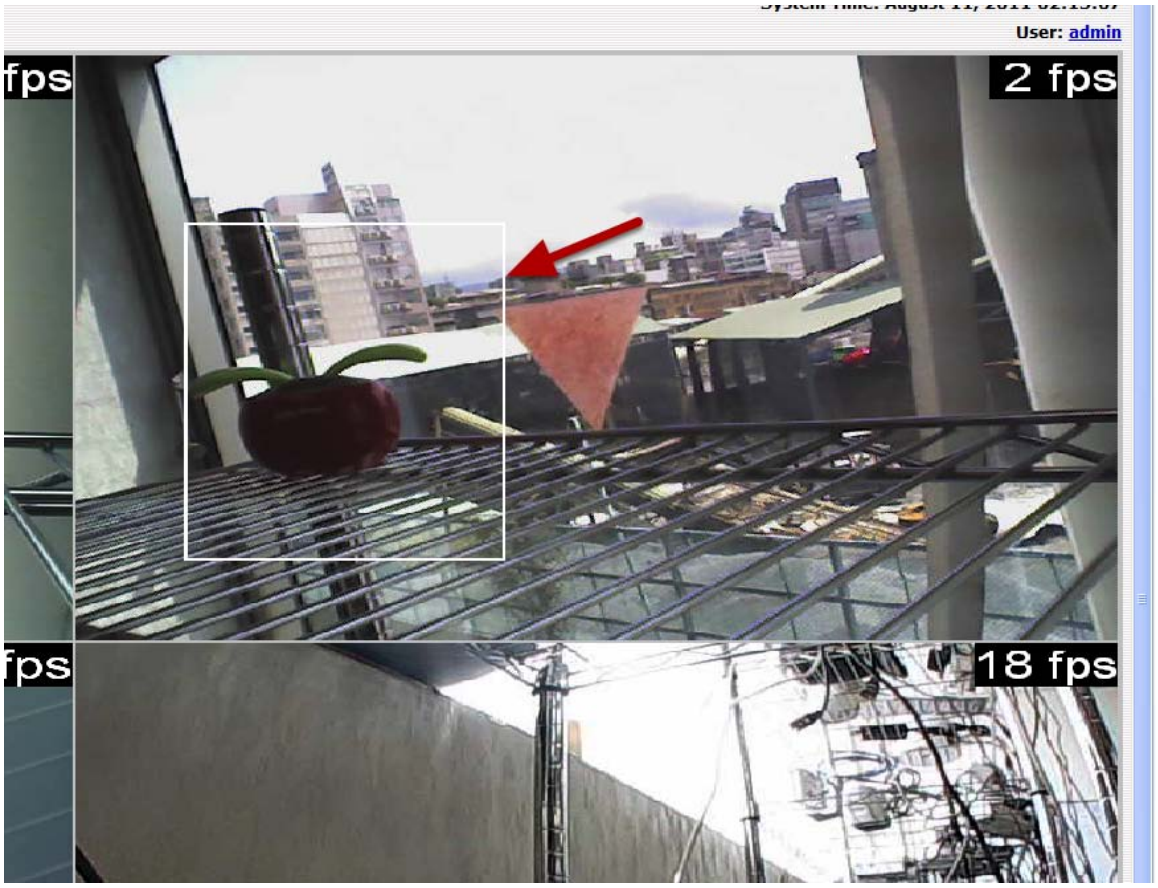


A dialog should be displayed that allows you to choose a directory/folder of where the snapshot will be saved to.

Perform Digital PTZ



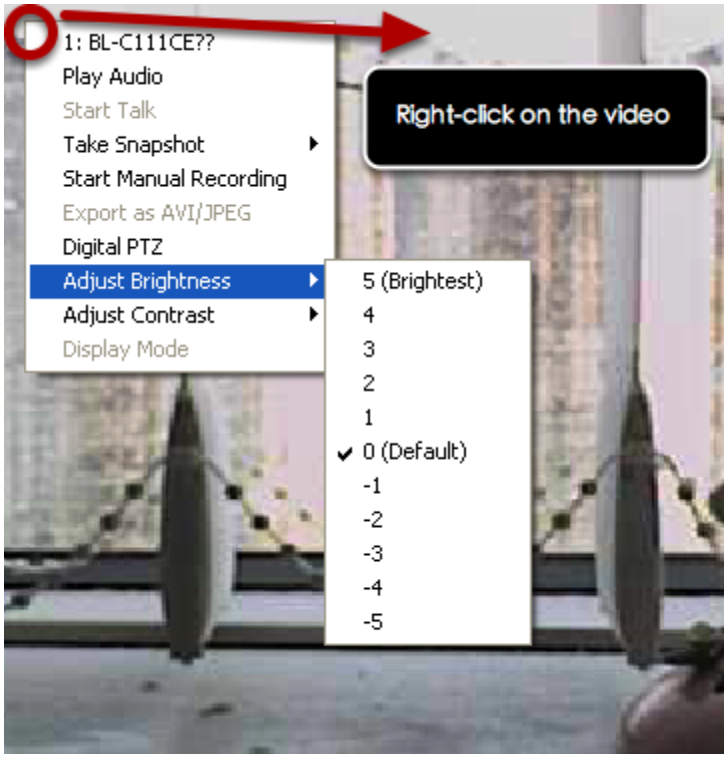
To perform digital PTZ on a particular channel, right-click anywhere on its video and select "Digital PTZ".



Next, hold the mouse left button and draw a square on the video to specify the zoom in area

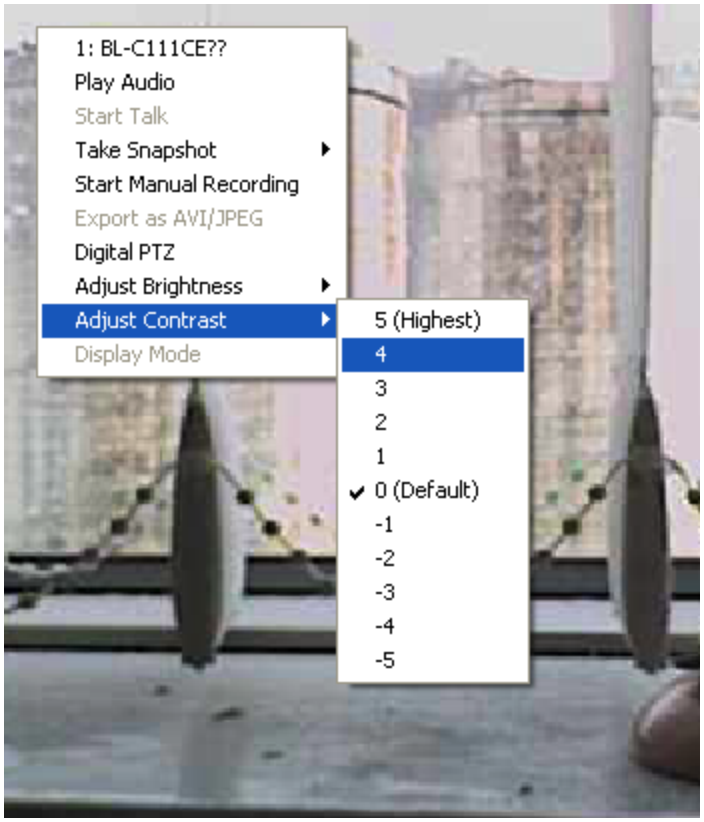
Once the image is digitally zoomed in, use the mouse scroll button to further zoom on or zoom out the image. Hold and left-click on the image and move the mouse to move the zoomed in video.

Adjust Brightness for the Live Video



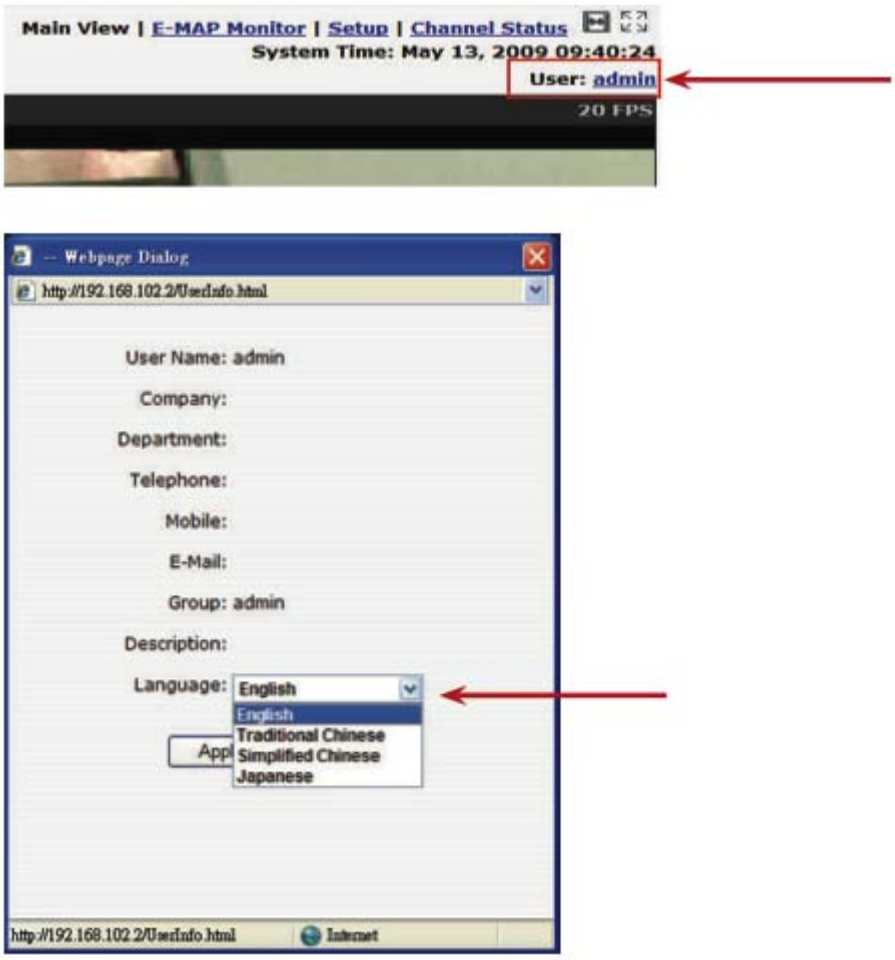
You are able to adjust brightness of the live video from the right-click menu.

Adjust Contrast for the Live Video



Same thing as the brightness, you can set the contrast for the live video from the right-click menu as well.

Change Web UI Display Language

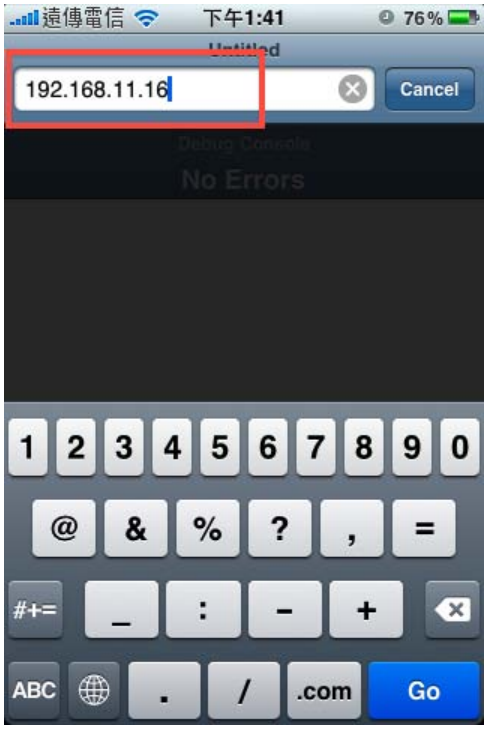


You can change the web UI display language from the current login username link located at the upper-right hand corner. Click on the link opens up a new window which displays detail information about the user as well as a drop-down menu which lets you change the display language.

Live View through iPhone Safari Browser

You can use iPhone and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through the Safari browser, make sure "javascript" is on under "Settings" >> "Safari" >> "Javascript"

Once Javascript is enabled, click the "Home" button on the iPhone to go back to the home screen and open the Safari browser



Type in the IP address of the NVR in the address bar

You should be prompted to enter the username and password to access the NVR

Upon successful login, you should see the live view video of the first channel

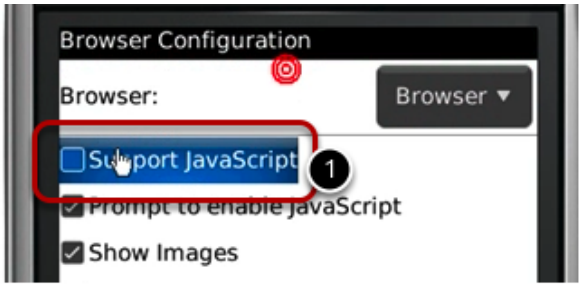
Click on the "Channel" drop-down menu to select other cameras

If a PTZ camera is selected, the corresponding control buttons will display (control PT only)

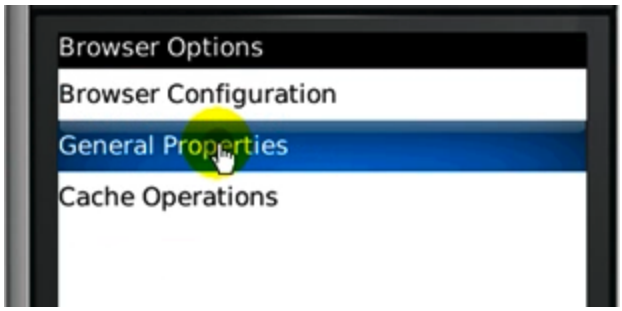
** Please note that this function is camera dependent and is not available to all cameras. Certain cameras do not allow adjusting image size and the se- lection "Auto" will be used.*

Live View through Blackberry Phones

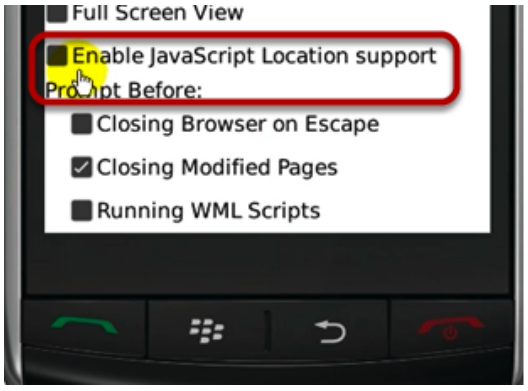
You can use Blackberry and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through its browser, make sure "javascript" is enabled under "Browser" >> "Menu button" >> "Options" >> "Browser Configuration"

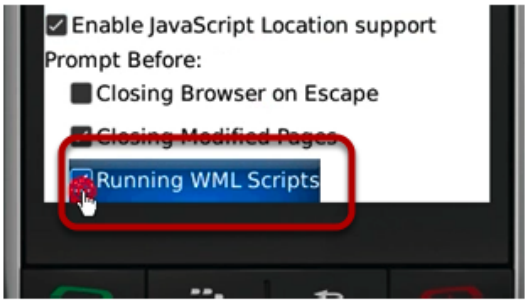


Enable the "Support Javascript" option and click the menu button and click "Save Options"



Go to "General Properties





Make sure two options illustrated above are enabled

Press the menu button and click the "Save Options" to save settings

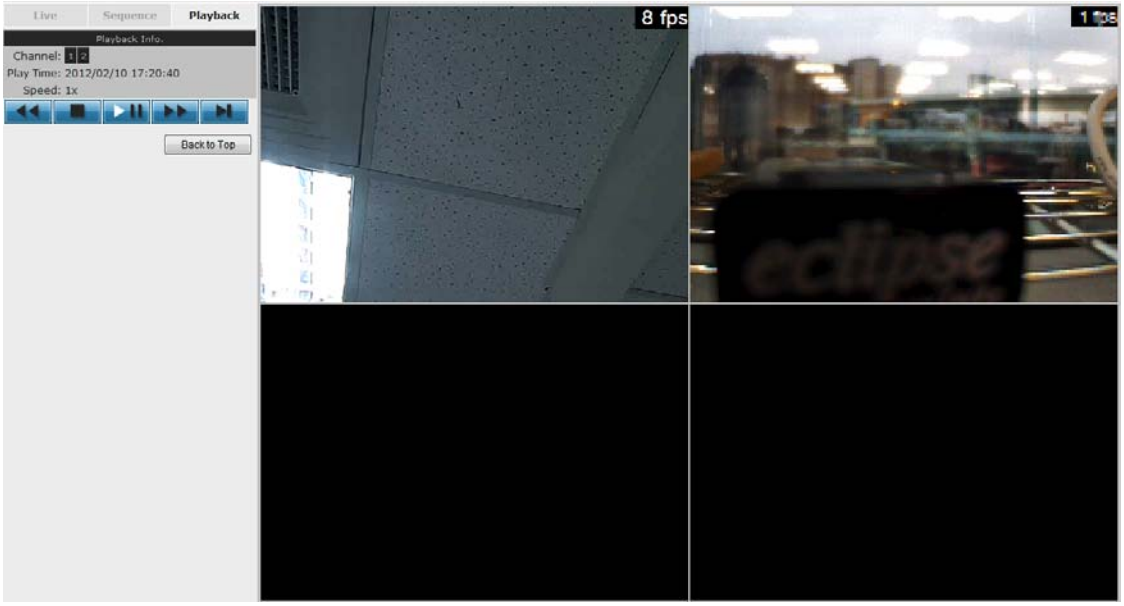
Press the button highlighted above to go back to the browser

Type in the IP address of the NVR in the address bar

You should be prompted to enter its username and password for access

Playback (Web Interface)

Playback



Playback is a function that allows you to play one or more videos that were previously recorded by a chosen recording method or due to an event trigger. The NVR offers synchronized playback from up to 4 channels and various types of search methods are provided to help you find the footage you need quickly.

You can turn on or off the audio of a recorded video at your choice if audio was also recorded during the recording of the video.

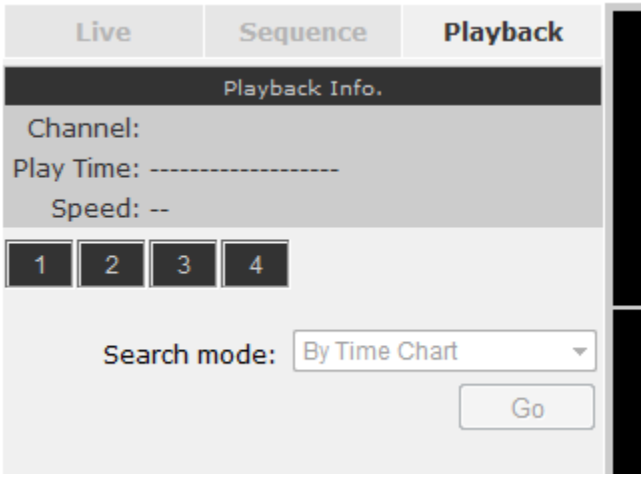
Playback video can be viewed in full screen and snapshots can be taken and saved during a video playback.

Methods to Search Playback Videos

The NVR offers three methods to quickly help users find videos that were previously recorded:

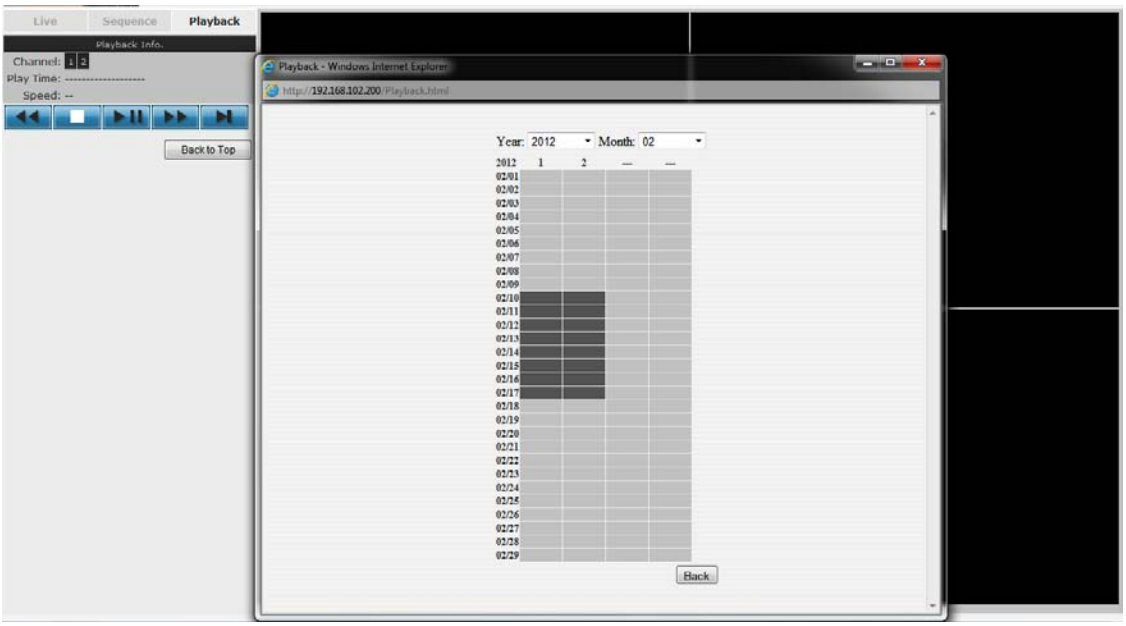
- Search by time: *Specify a time range and search videos recorded within that range*
- Search by event: *Find videos that were recorded due to event triggers*
- Most Recent Events: Displays the most recent 15 events
- Play by start time: *Enter a specific time a video was recorded to start playing back the video*

Search by time chart

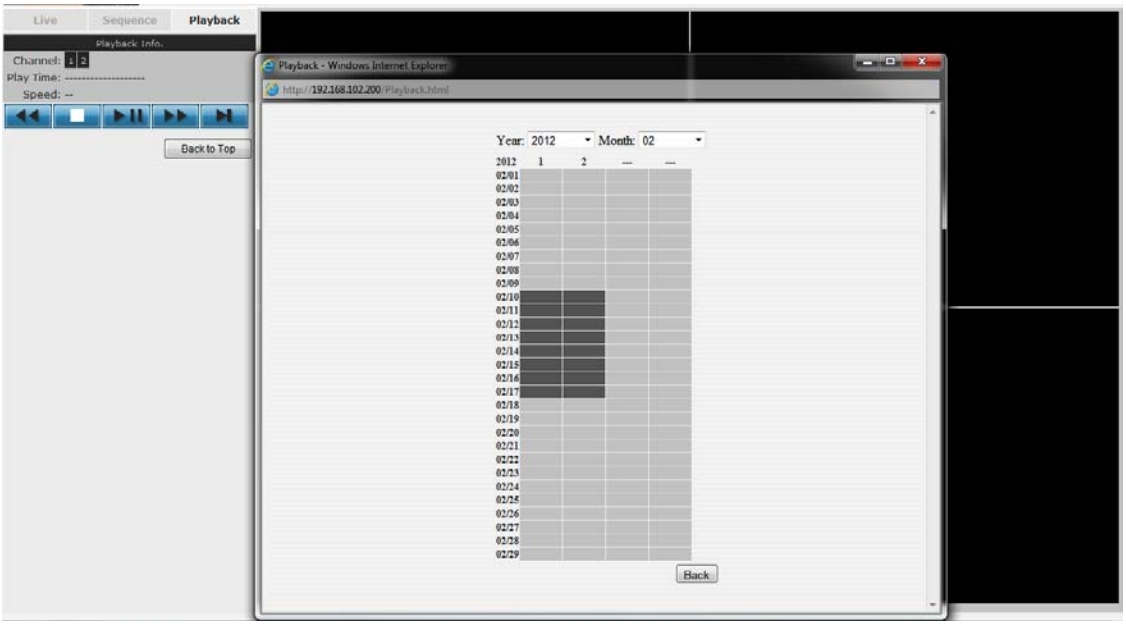


1. Start by selecting which channel(s) you would like to perform a search on.
2. Select "Search by time chart" from the "Search Method" drop-down list and click "Go" to start the search

** Selected channels will be marked in red*



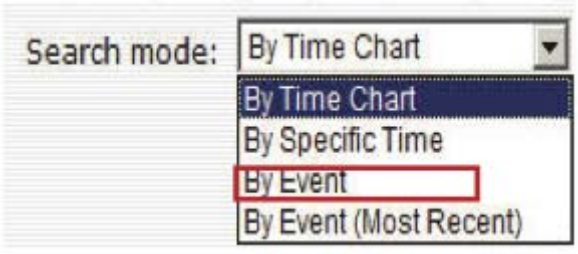
Results will then be displayed in a new dialog with a "Month/Channel" table and boxes marked in dark gray represent videos found in those dates. (** Videos from other cameras that are recorded on the same date will also be displayed)*



Clicking on a cell box marked with gray will take you to the "day" view of the selected month. Repeating the same step will eventually take you to the "second" view (5sec per cell box). Right-click anywhere or the "Back" button on the table will take you back to the previous view.

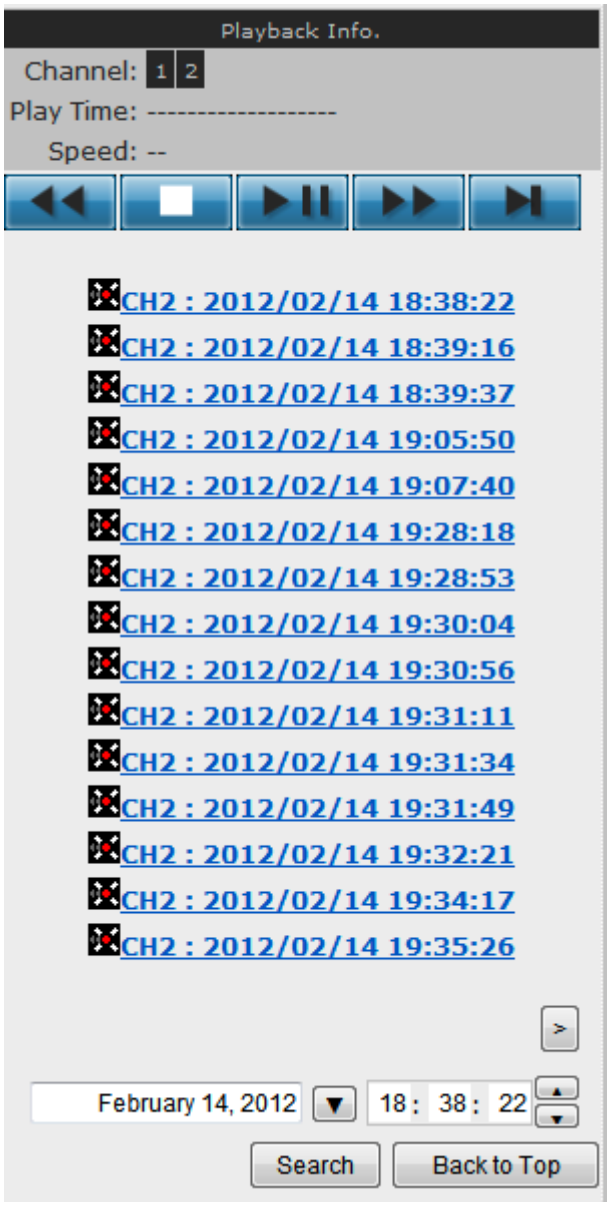
Click on the play button at anytime will start playing videos from the beginning of the current time view (ex. if the table is in the "month" view, click play will start playing from the first available clip of that month)

Search by event

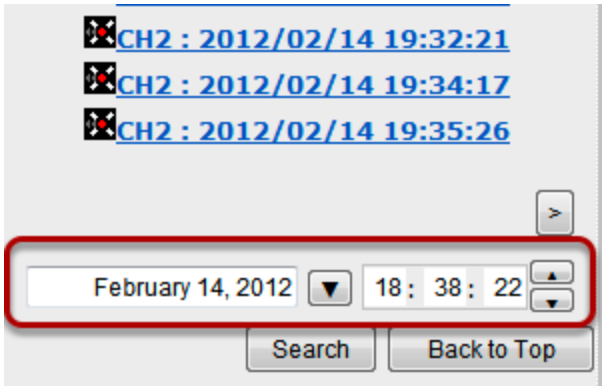


Start by selecting which channel(s) you would like to perform a search on.

Select "Search by event" from the "Search Method" drop-down list and click "Go" to start the search

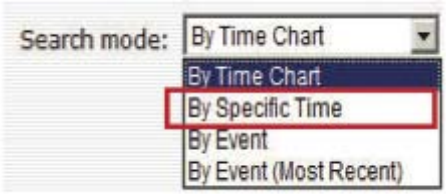


Results will then be listed like what is shown below (displays the oldest record top down). Click on a particular result to start the playback. (* *You can click "Next Search" to display the next 15 results.)*

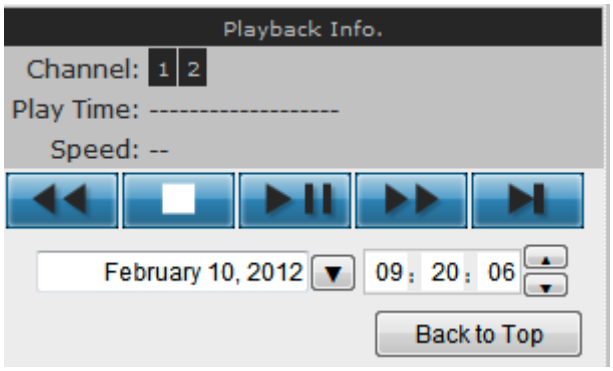


You may also specify a new start time to search and display results from then on. You can restrict the number of results to be displayed at once (max. 30) and perform the search again

Play by specific time

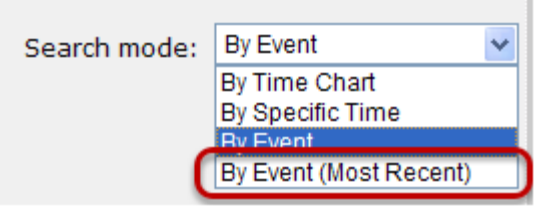


If you know when a recording was taken place, you may choose the "Play by start time" from the "Search Method" drop-down list

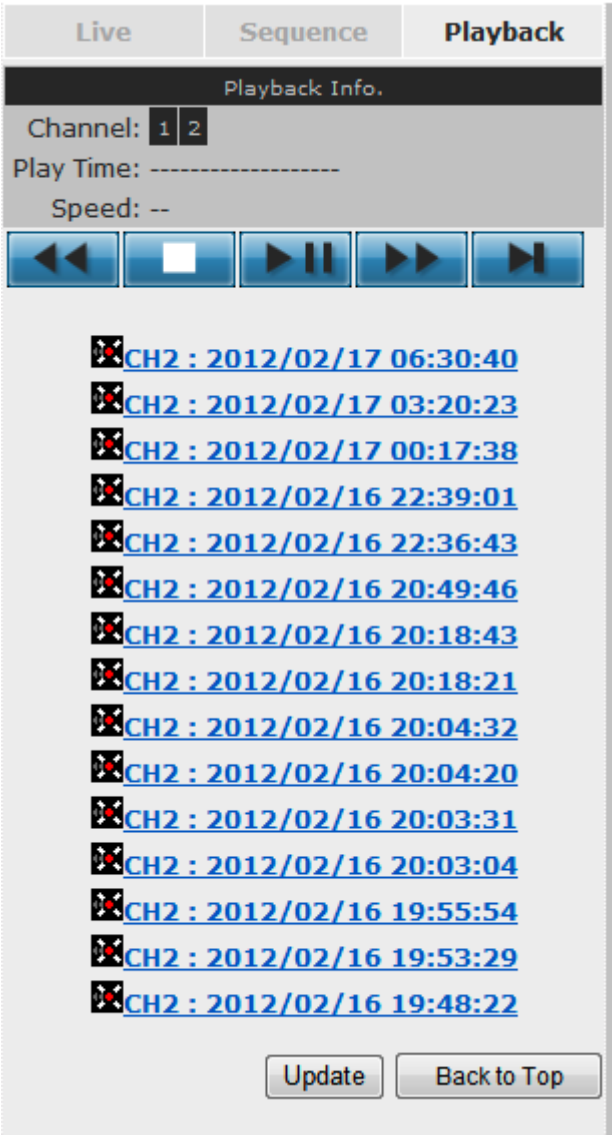


Then you will be prompted to enter a specific time and date for the recorded video.

Search by event (Most Recent)

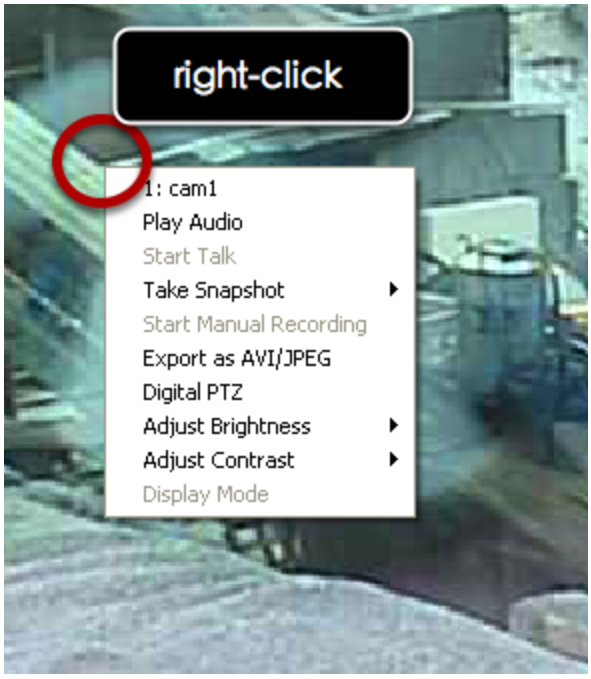


This function quickly displays the most recent event recordings from the selected channels, displaying the most recent result top down.



You may click "Update" to update the list to display the most recent results.

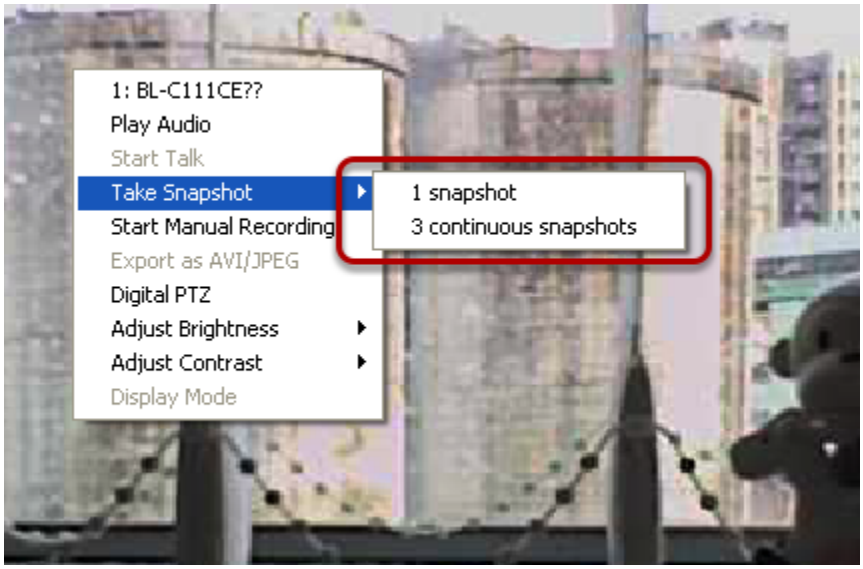
Certain functions you can perform to the playback video



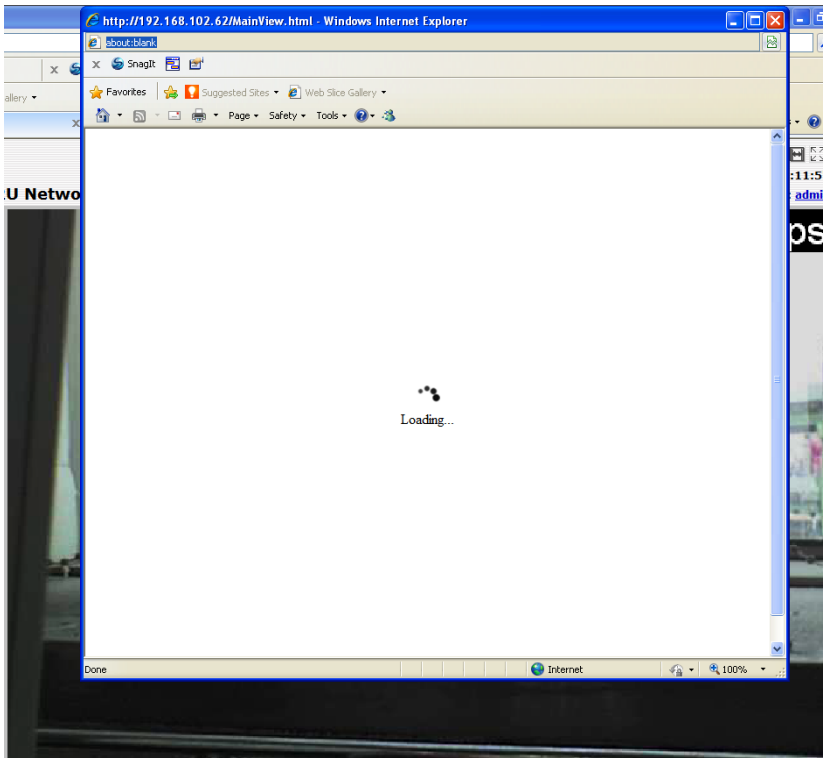
You can do the followings by right clicking on the playback video:

1. Play Audio
2. Snapshot
3. Export as AVI file
4. Digital PTZ
5. Adjust Brightness
6. Adjust Contrast

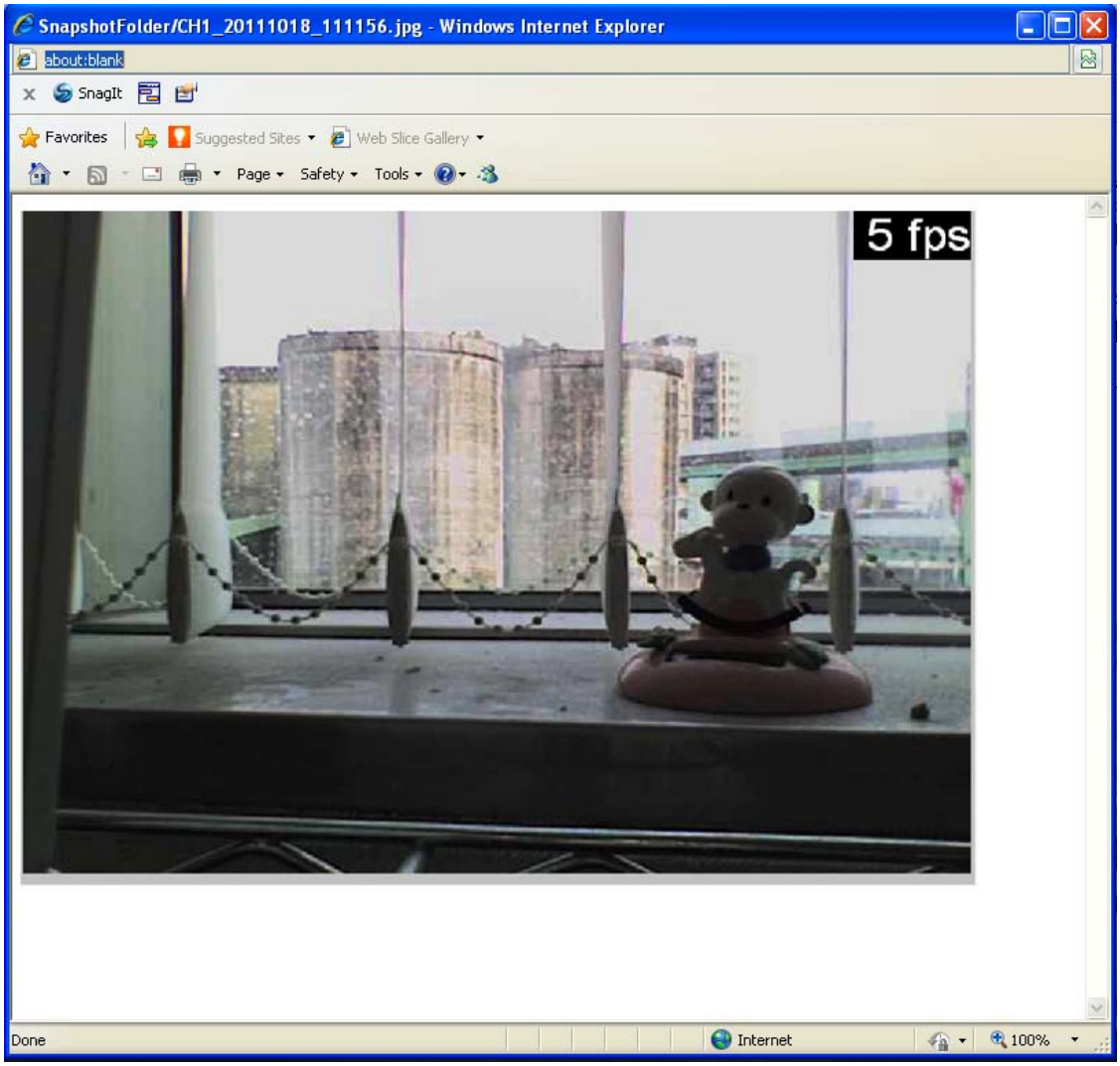
Take a snapshot of a playback video



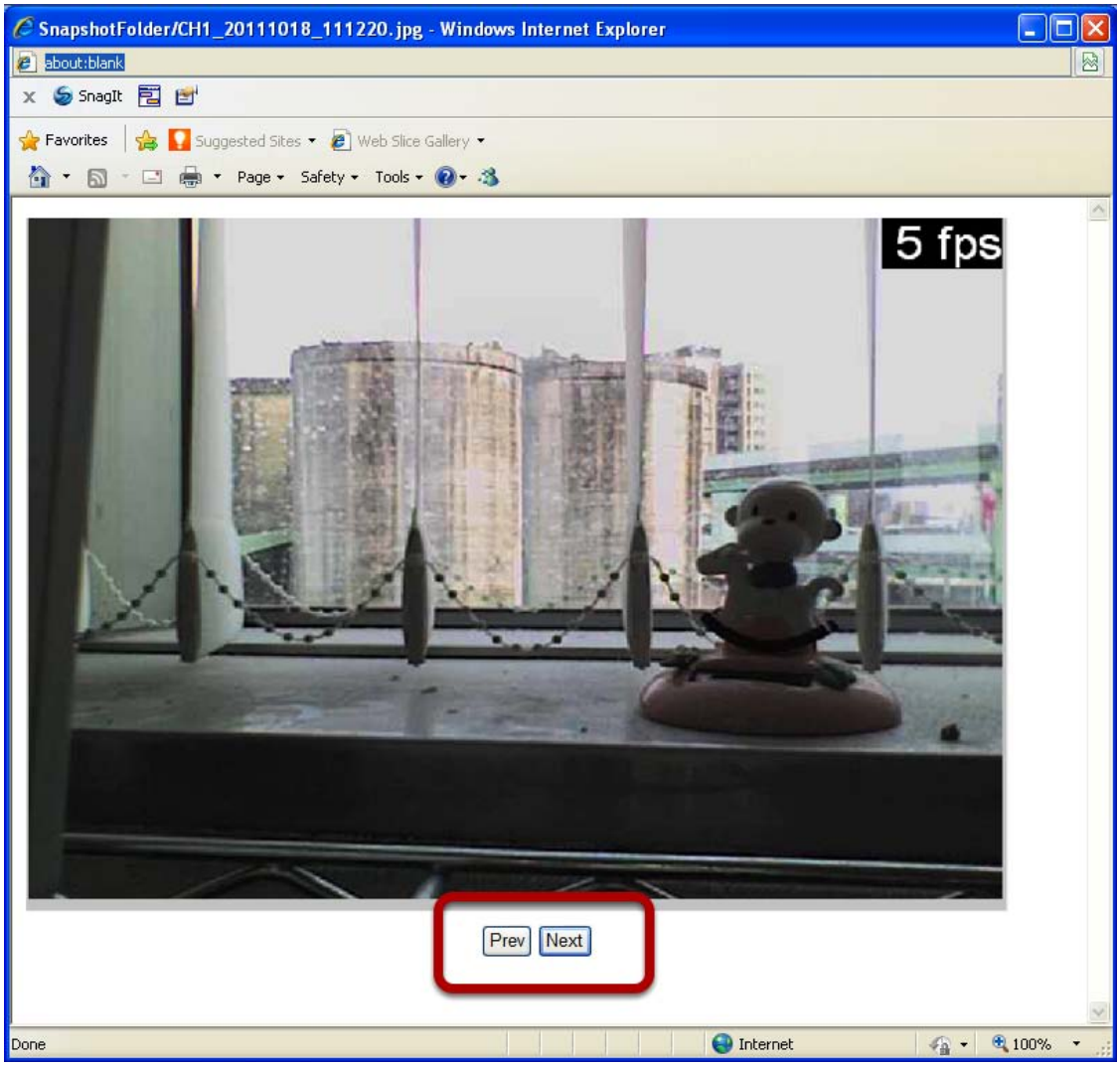
To take a snapshot, right-click on the video and select "Take Snapshot". You are given with options to take 1 snapshot or 3 continuous snapshots.



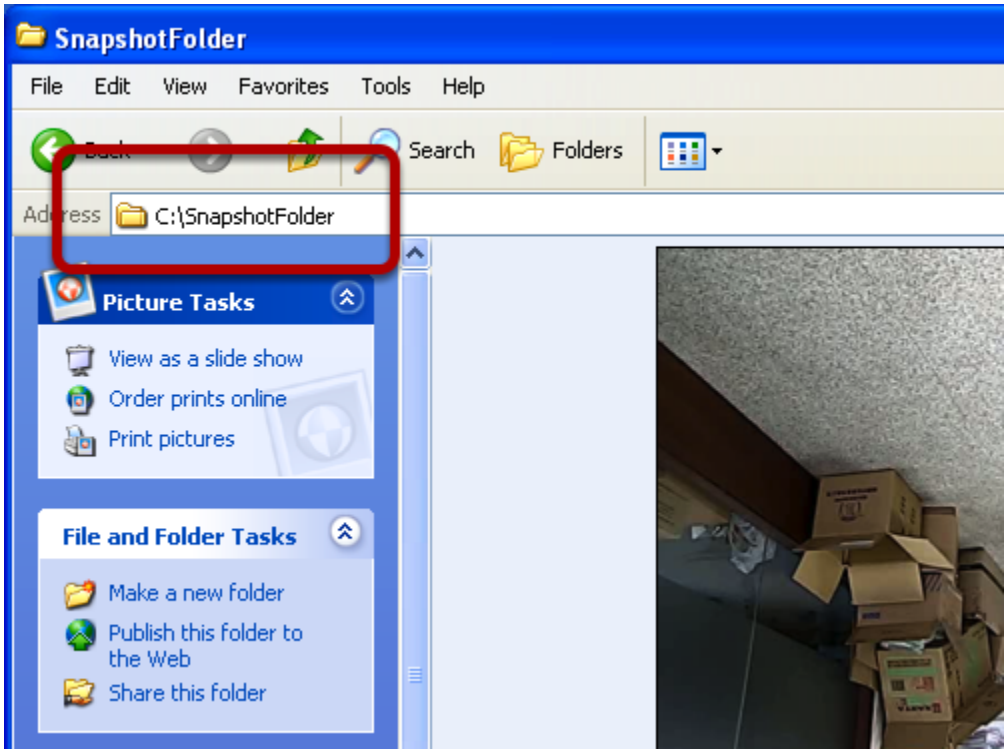
A new window should display and load the snapshot image.



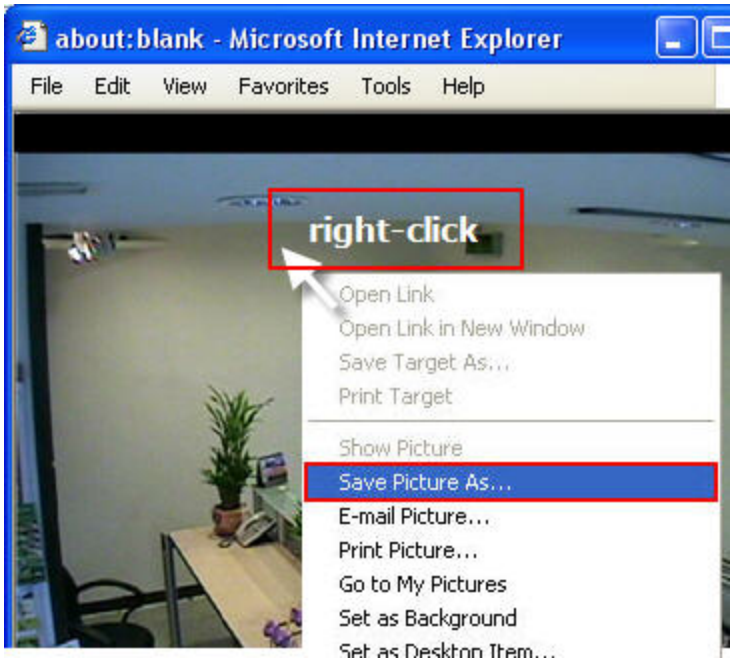
The new window displays the snapshot.



If the "3 continuous snapshots" option is chosen, the new window displays snapshots and lets you view them individually by using the "Prev", "Next" buttons shown above.

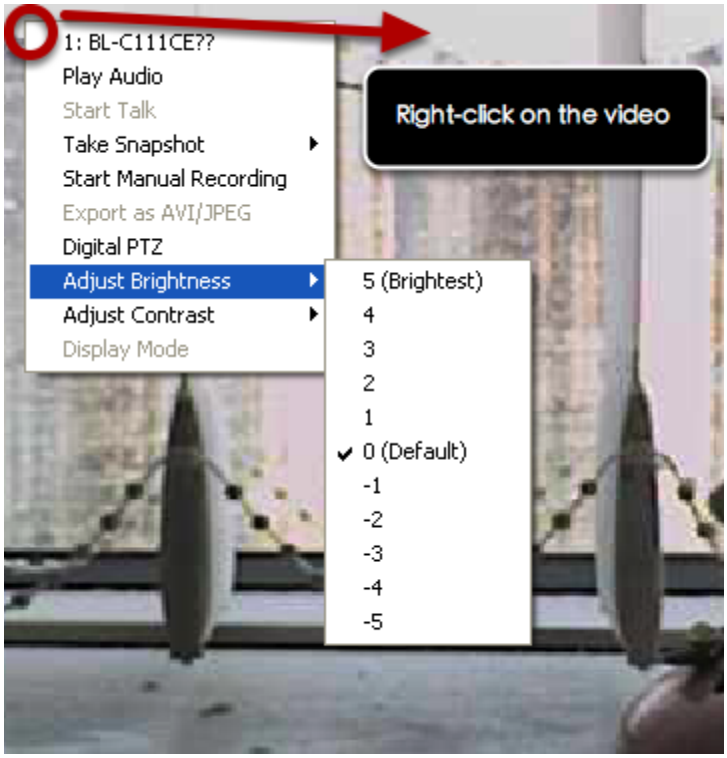


However, as soon as a snapshot selection is made, the snapshots are automatically saved to x:\SnapshotFolder ("x" represents the partition where Windows is installed, e.g.: C:\)



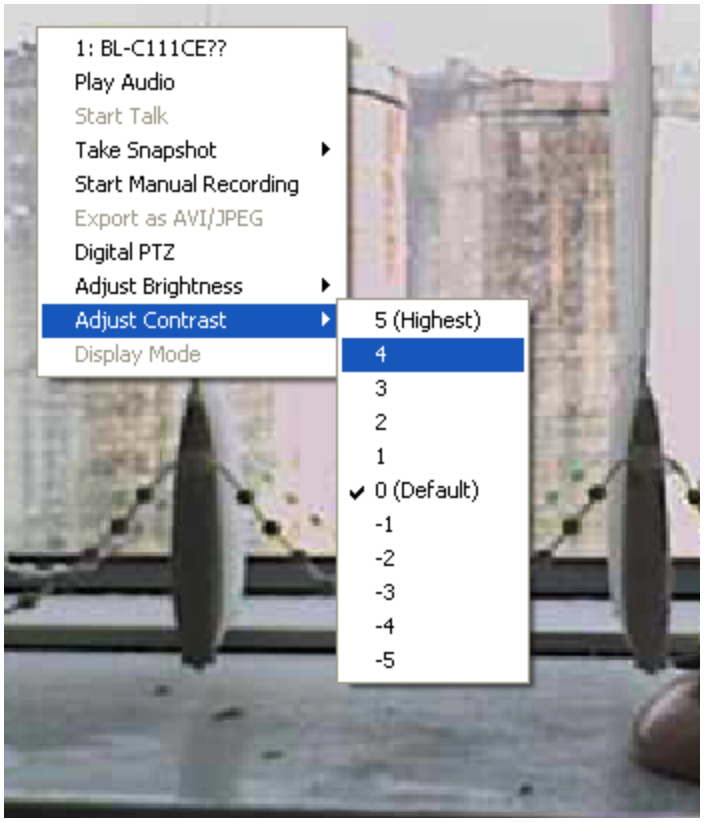
You can right-click anywhere on the image and select "Save Picture As..." to save the images somewhere else if you wish.

Adjust Brightness for the Playback Video



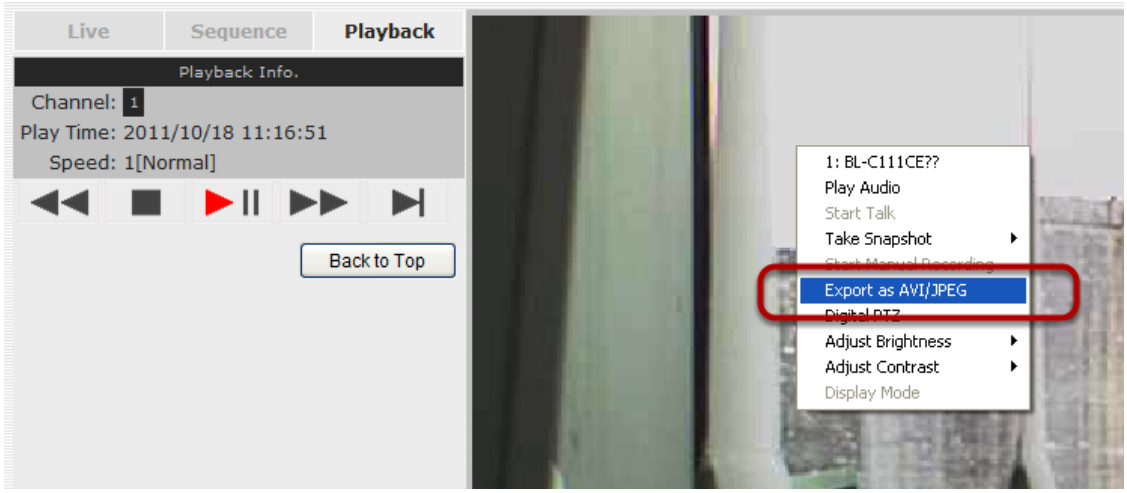
You are able to adjust brightness of the playback video from the right-click menu.

Adjust Contrast for the Playback Video



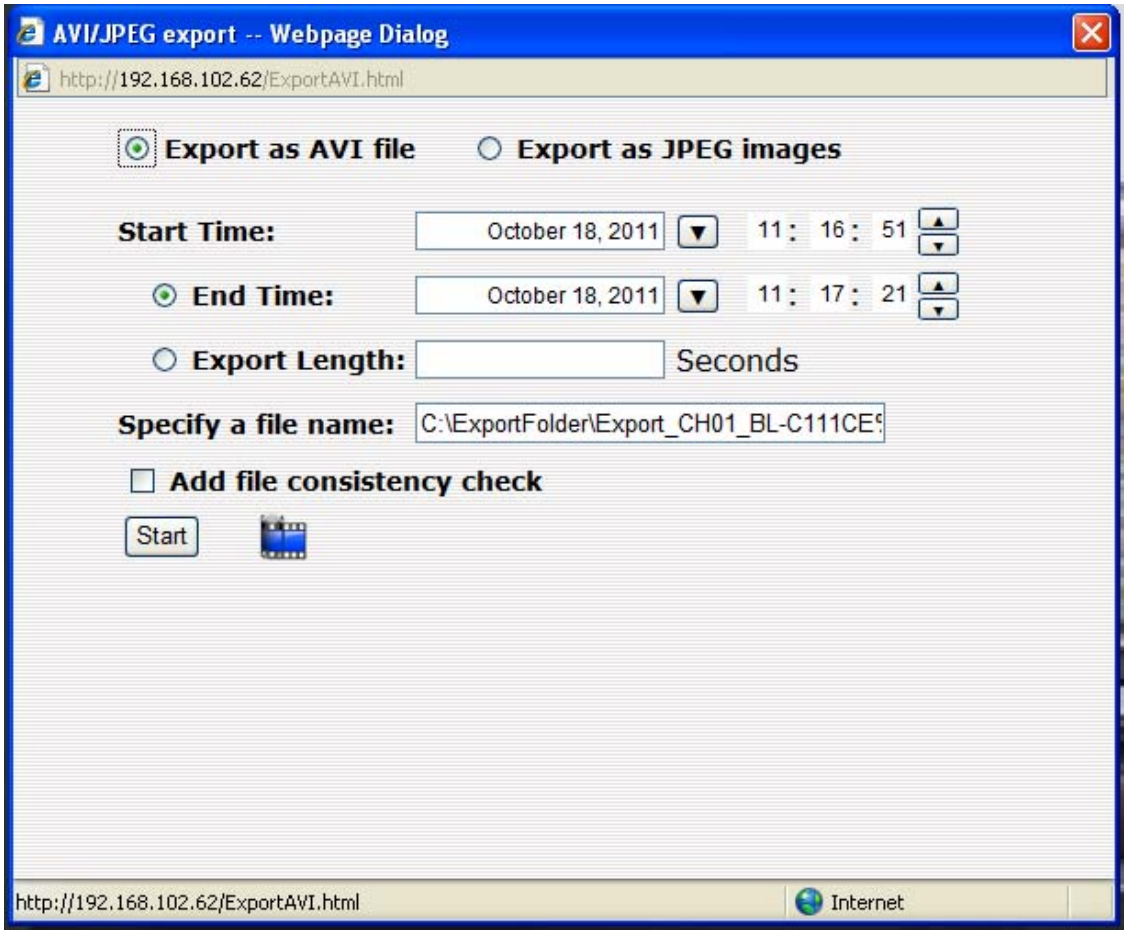
Same thing as the brightness, you can set the contrast for the playback video from the right-click menu as well.

Export Playback Videos to AVI Files

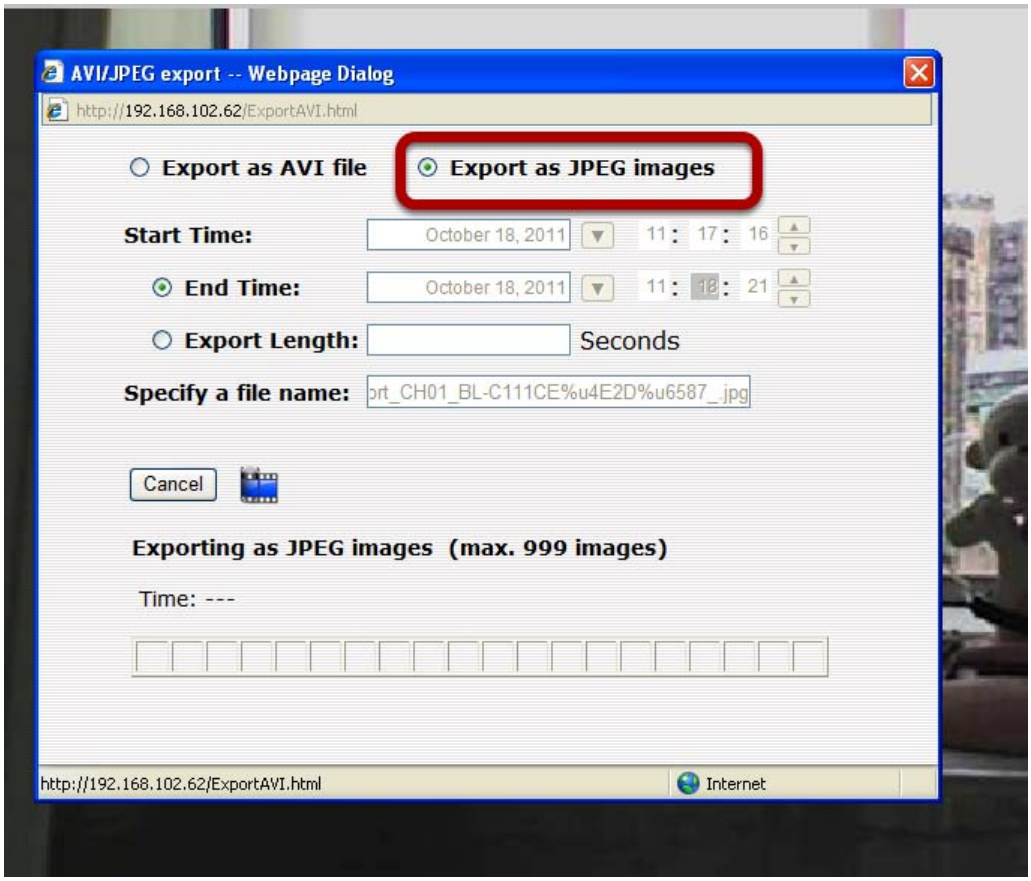


User can export the recorded playback videos stored on the NVR to a local computer and save them in AVI file format. The files can then be

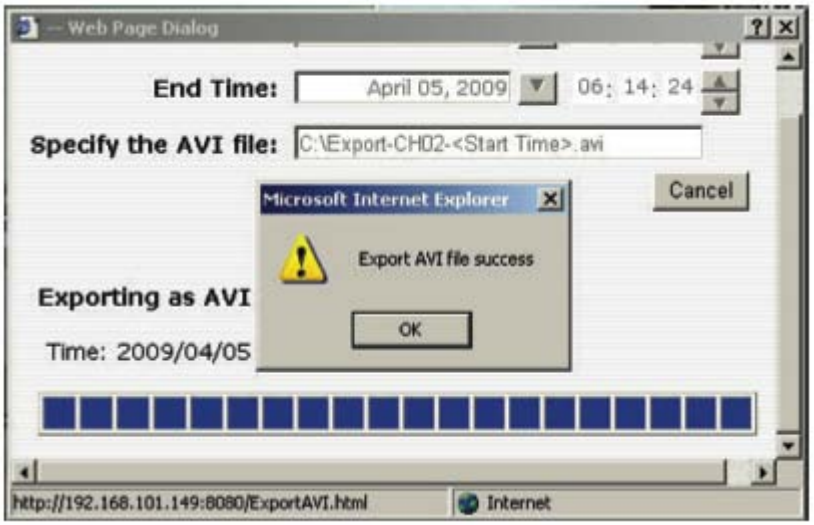
played on the PC by a 3rd party media player such as VLC player or Windows Media player.
Once you locate the recorded videos with steps described in the previous section, select "Export as AVI file"



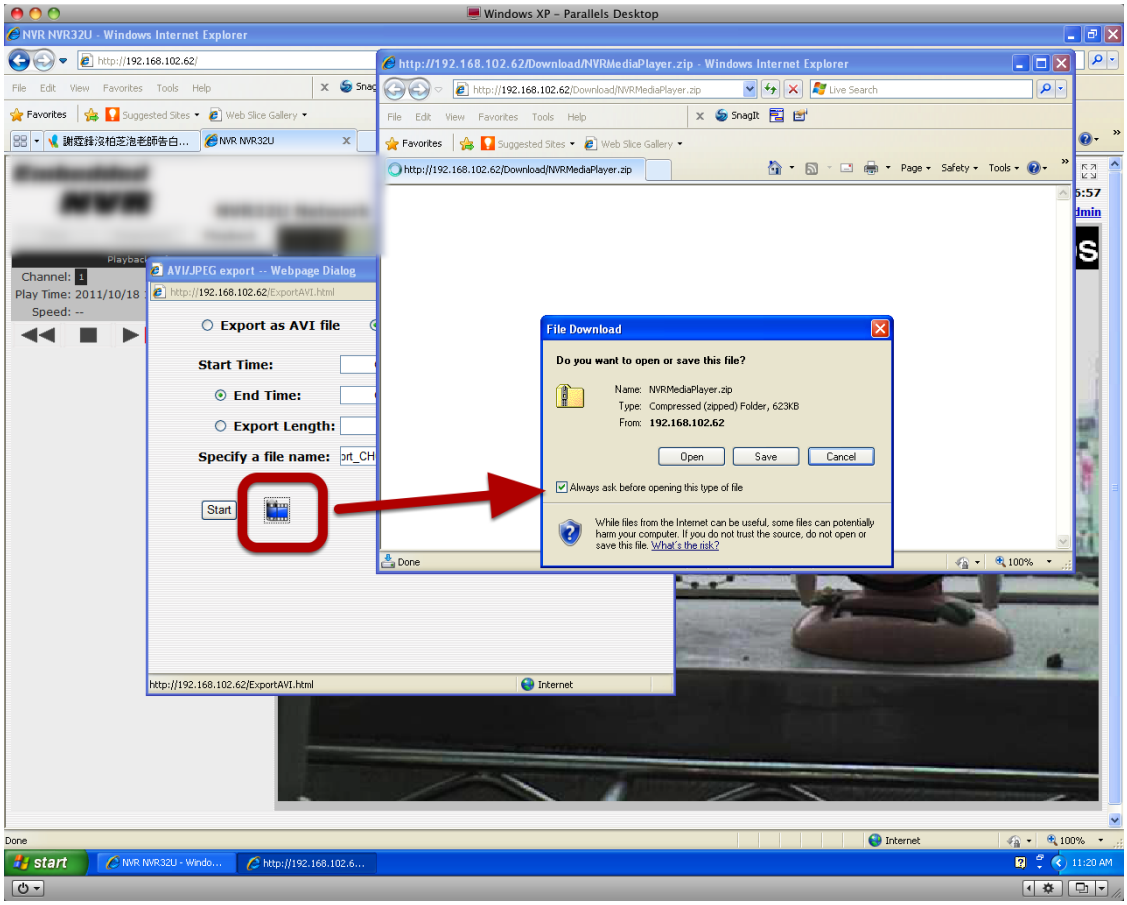
A new dialog will pop up and allows you to specify the time frame (or length) of the video you wish to export



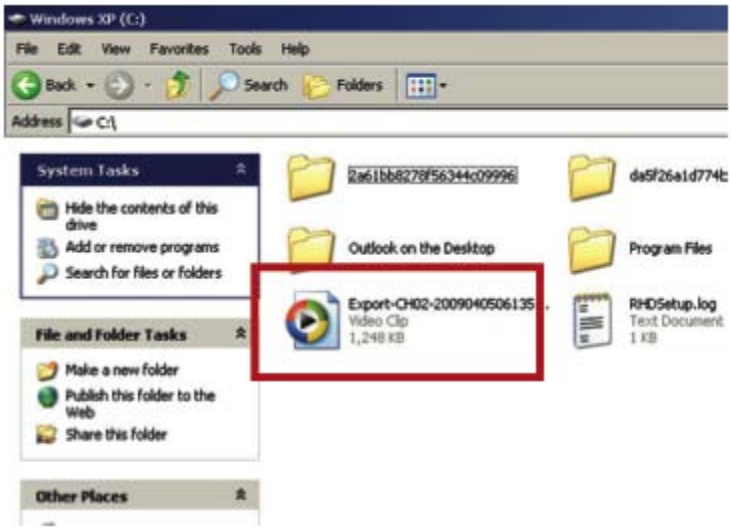
You can alternatively choose to export the recorded video to JPEG images by choosing the "Export as JPEG images" option.



Specify the Start time/End time (or export length) and click "Start" to begin exporting.
You will be notified once the process is completed successfully


Windows XP – Parallels Desktop
NVR NVR32U - Windows Internet Explorer
http://192.168.102.62/Download/NVRMediaPlayer.zip - Windows Internet Explorer
AVI/JPEG export -- Webpage Dialog
Export as AVI file
Start Time:
End Time:
Export Length:
Specify a file name:
Start
File Download
Do you want to open or save this file?
Name: NVRMediaPlayer.zip
Type: Compressed (zipped) Folder, 623KB
From: 192.168.102.62
Open
Save
Cancel
Always ask before opening this type of file
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?
Channel: 1
Play Time: 2011/10/18
Speed: --
Done
Internet
start

The best way to view the exported video or JPEG images is to use the NVR media player, which can be obtained from the same dialog window. Simply click on the icon at the bottom (highlighted above), and a message box should appear to let you open the media player directly, or save it to the local hard drive for later use.



The exported AVI files (or JPEG images) will be saved under the C partition (or the partition where Windows is installed)

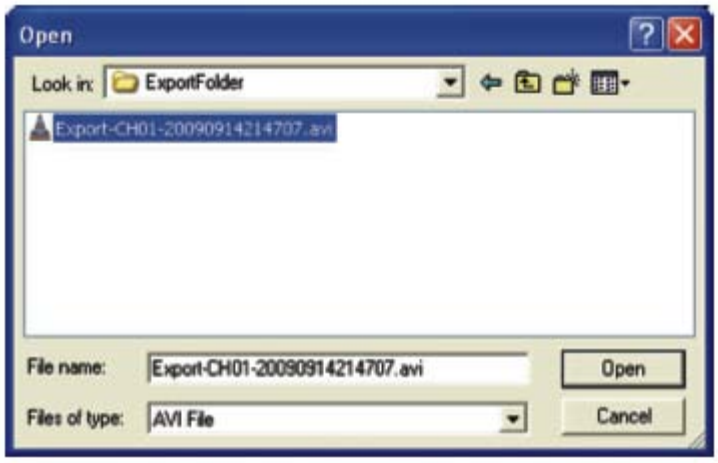
** ffdshow is required in order to play the exported AVI file with Windows Media Player. You can get it at*
http://sourceforge.net/projects/ffdshow/

Play Exported Playback Videos with NVR Media Player

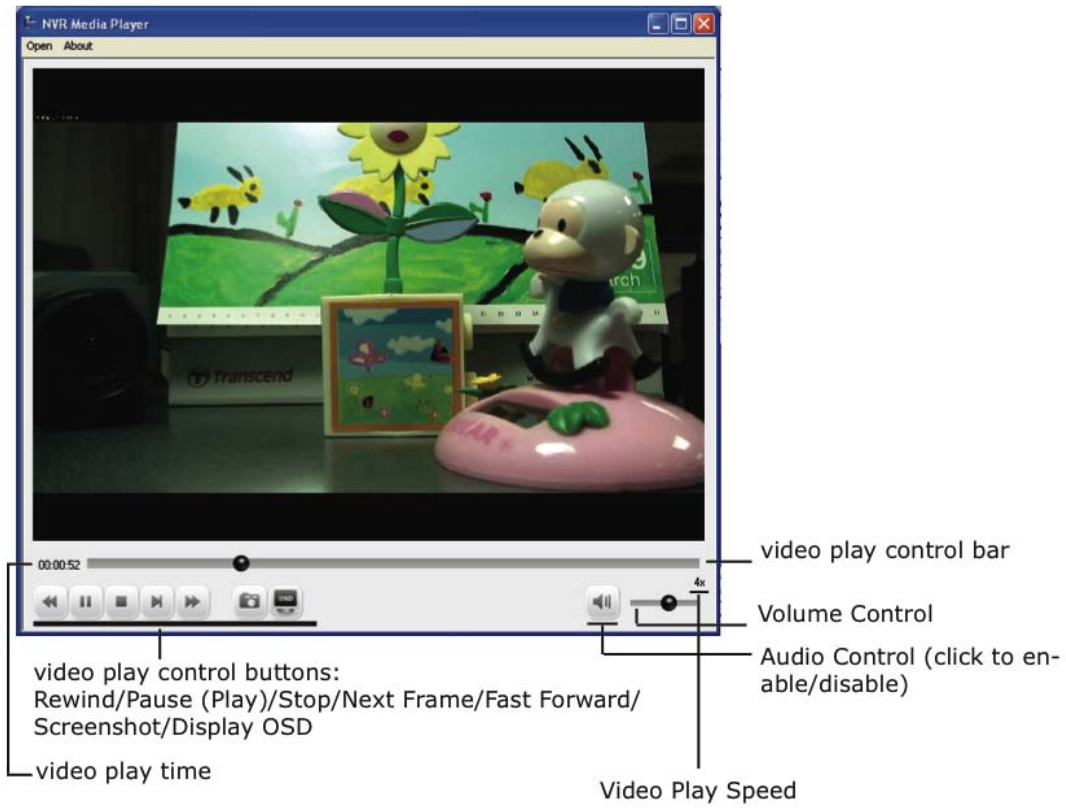
You can also use the NVR Media Player to play the exported AVI files. This can save you the trouble of installing third-party media player or codecs when playing the exported AVI videos.

The NVR Media Player will be automatically installed after the CMS software is installed. You can find it in the Windows Start menu.

Click "Open" >> "AVI File"

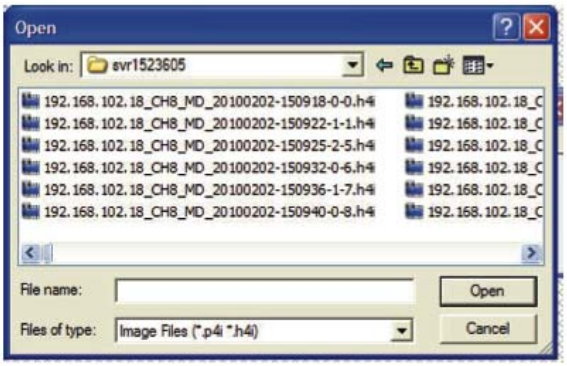


Locate the exported AVI file, and click "open". (Normally under "C:\ExportFolder)"



The video will then start playing

Open Event Snapshot images with NVR Media Player



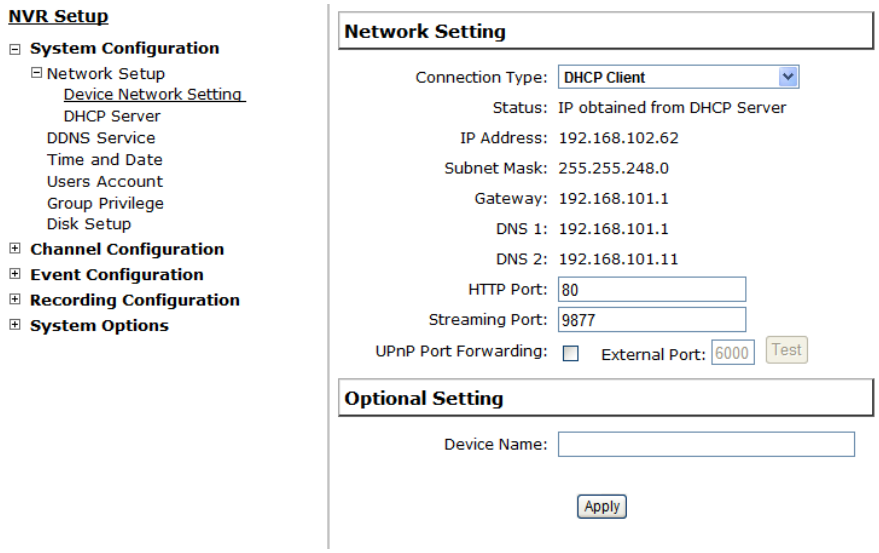
The NVR sends snapshots that are taken when an event occurs to a destined FTP server or mail recipient. These types of snapshot images are saved in a proprietary image file format, h4i or p4i, and can only be opened by the NVR media player.
To do so, Select "Open" from the top menu then select "Image File". A new dialog should be displayed which lets you locate the image file.

NVR Setup -- System Configurations (Web Interface)

Network Setup

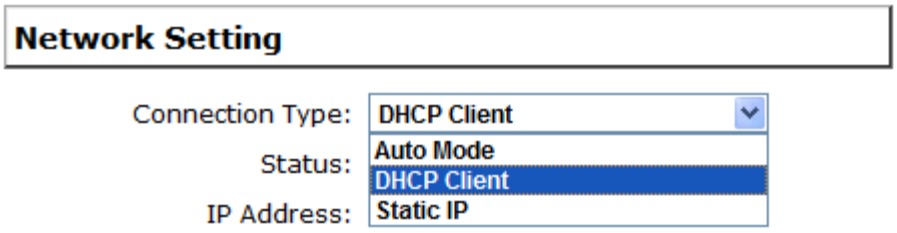
The "System Configurations" page provides users options to setup the device quickly and properly. After properly configuring all settings in all the sub-pages, users should expect a fully working network video recorder that is ready to manage cameras on the network. We will start by configuring its network settings to make sure it works correctly in your network. Next, we will help you adjust the system time so videos will be recorder with correct timestamp. To better secure the system for unwanted disturbance, we will guide you on setting up user's account and privileges to prevent settings gets altered by users other than the system administrator. Lastly, we will tell you what you should expect after installing a hard disk and how to prepare the hard disk for the video recording.

Network Settings

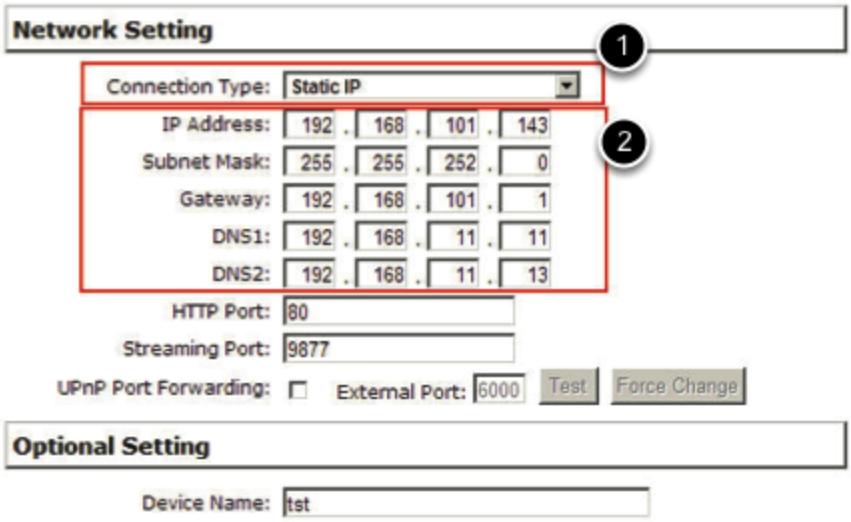


You need to adjust settings in this page for the device to work properly in your network. It is critical that settings here are configured correctly based on your network configurations so that the recorder can be administered through the local area network and cameras can be connected from it.

By default, the recorder is set to "Auto Mode" which if there's a DHCP server in the same local network, the NVR can obtain IP address from DHCP server, and you can locate the NVR by using the NVR search utility.
If there's no DHCP server in the network, and the NVR is set to use "Auto Mode", it will use its own default static IP 192.168.101.50.



The NVR supports three connection types that can be configured depends on how the network is setup.

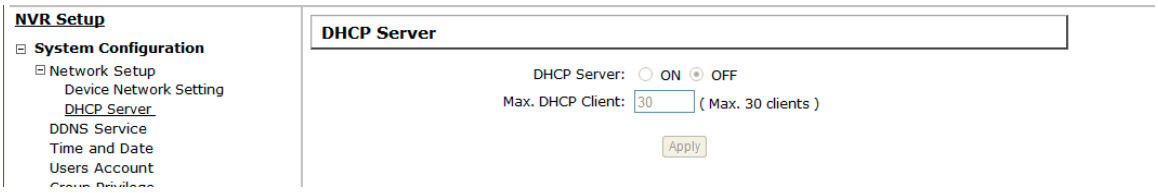

Network Setting
1
Connection Type: Static IP
IP Address: 192 . 168 . 101 . 143
2
Subnet Mask: 255 . 255 . 252 . 0
Gateway: 192 . 168 . 101 . 1
DNS1: 192 . 168 . 11 . 11
DNS2: 192 . 168 . 11 . 13
HTTP Port: 80
Streaming Port: 9877
UPnP Port Forwarding: External Port: 6000 Test Force Change
Optional Setting
Device Name: tst

If you wish to set the recorder to use a static IP address in your local area network,

1. Choose "Static IP" from the "Connection Type" drop-down menu
2. Enter the IP address, subnet mask, default gateway address and DNS server address for the recorder
3. Enable "DHCP Server" under "DHCP Server" if you wish to use the recorder as a DHCP server, or leave it disabled if there is already a DHCP server in the network
4. Click Apply for the settings to take effect

** The recorder can detect the presence of a DHCP server upon startup. It sets itself to use static IP address if there is no DHCP server currently presented in the network. Its DHCP server function is also turned on at the same time to assign IP addresses to cameras that are later connected to the network* or you can manually turn off the DHCP server function from "System Configurations">>"Network Setup">>"DHCP Server" if you wish to use a separate DHCP server

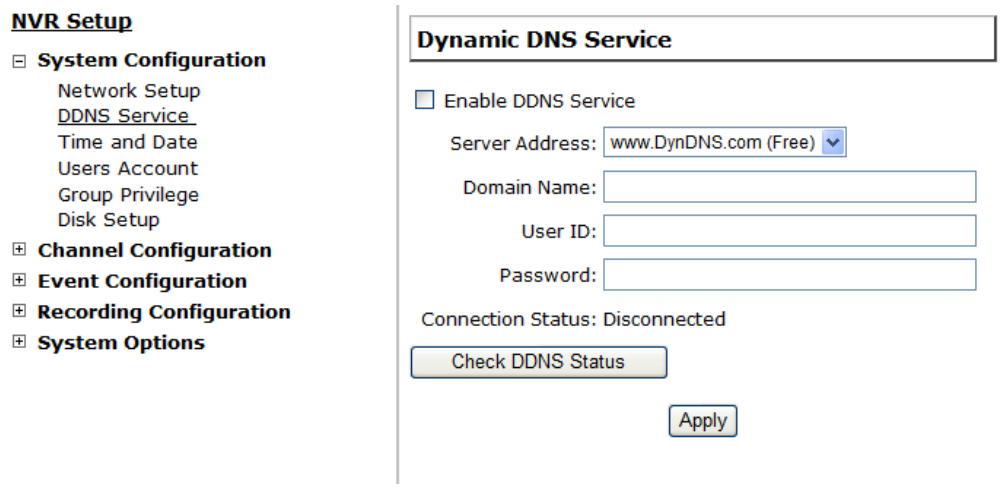
DHCP Server



The built-in DHCP Server function is NOT always configurable and is greatly dependant to the connection type that is set to use in "Device Network Setting":

1. If the connection type is "Auto Mode", the DHCP server function is NOT configurable. It will be ON if the NVR doesn't obtain an IP from a DHCP server in the local network and uses its own default static IP 192.168.101.50
2. If the connection type is "Auto Mode", the DHCP server function is NOT configurable. It will be OFF if the NVR obtains an IP from a DHCP server in the local network.
3. If the connection type is "DHCP Client", the DHCP server function is NOT configurable. It will be OFF if the NVR obtains an IP from a DHCP server in the local network.
4. If the connection type is "DHCP Client", the DHCP server function is NOT configurable. It will be ON if the NVR doesn't obtain an IP from a DHCP server in the local network and uses its own default static IP 192.168.101.50
5. If the connection type if "Static IP", the DHCP server function is configurable and can be turn on/off manually.

DDNS Service



DDNS, which stands for "Dynamic DNS", is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system (in this case, the NVR) using the Internet Protocol Suite, to notify a domain name server to change, in real time, the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

A popular application of dynamic DNS is to provide a residential user's Internet gateway that has a variable, often changing, IP address with a well known hostname resolvable through standard DNS queries.

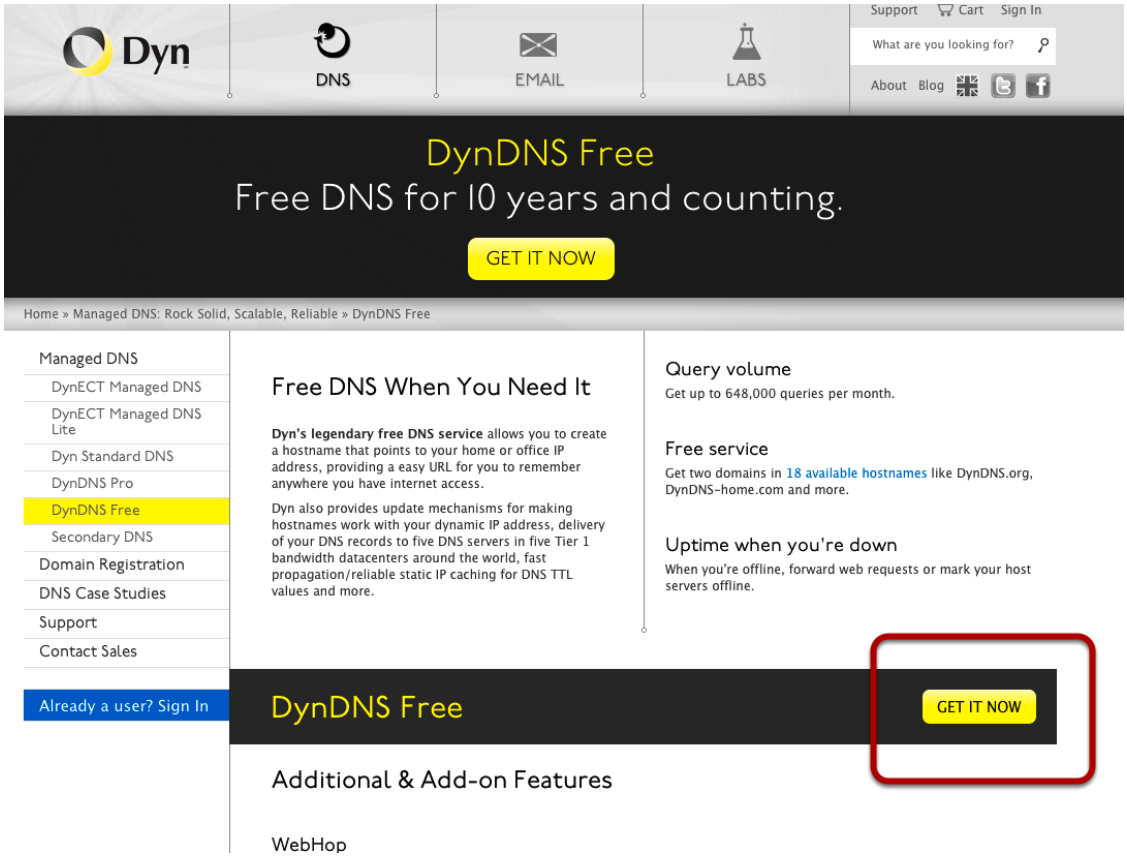
This is useful if the NVR is placed on the Internet with a dynamic public IP, which once the DDNS is properly setup, users can access the NVR remotely with the DDNS domain name without worrying if the IP has changed or not.

**Please make sure a valid DNS server has been configured under the "Network Setting" page in order for this function to work properly.*

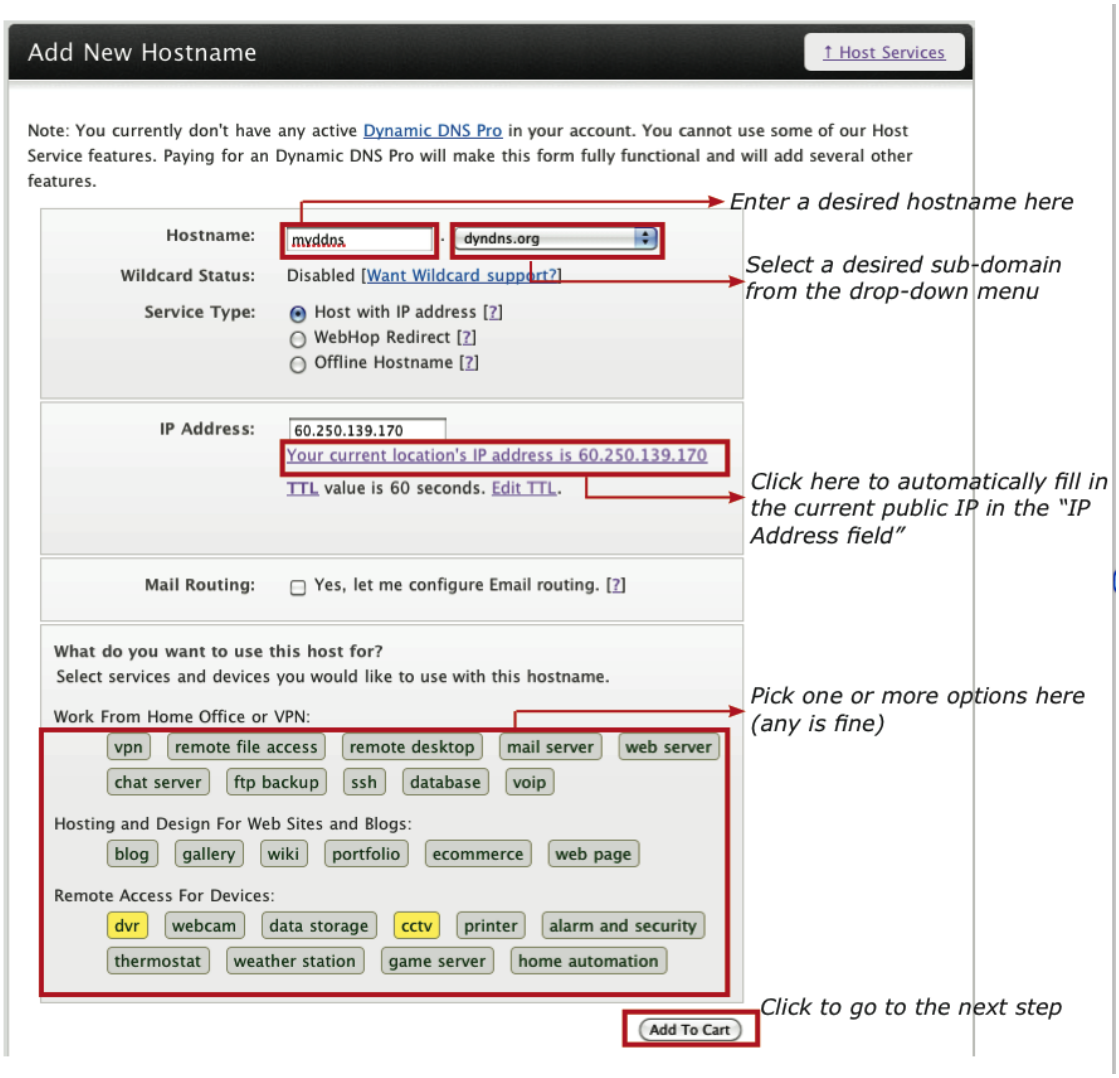
**The NVR currently only works with free DDNS service provided by "DynDNS". For more information, please go to www.dyndns.com*

If the NVR is placed behind a router or Internet gateway, please make sure port forwarding for port 80 is configured on the router or the gat- way in order for the DDNS function to properly register with the service.* ***It's often suggested to use the DDNS function in the router/ gateway for such case instead.*

**Once you have the DDNS function successfully up and running, please DO NOT forget to configure port forwarding for the NVR web port (default 80) and the streaming port (default 9877) in the router/gateway for remote viewing. You can then type in http://yourddnsdomain in the browser to access the NVR remotely for live view.*

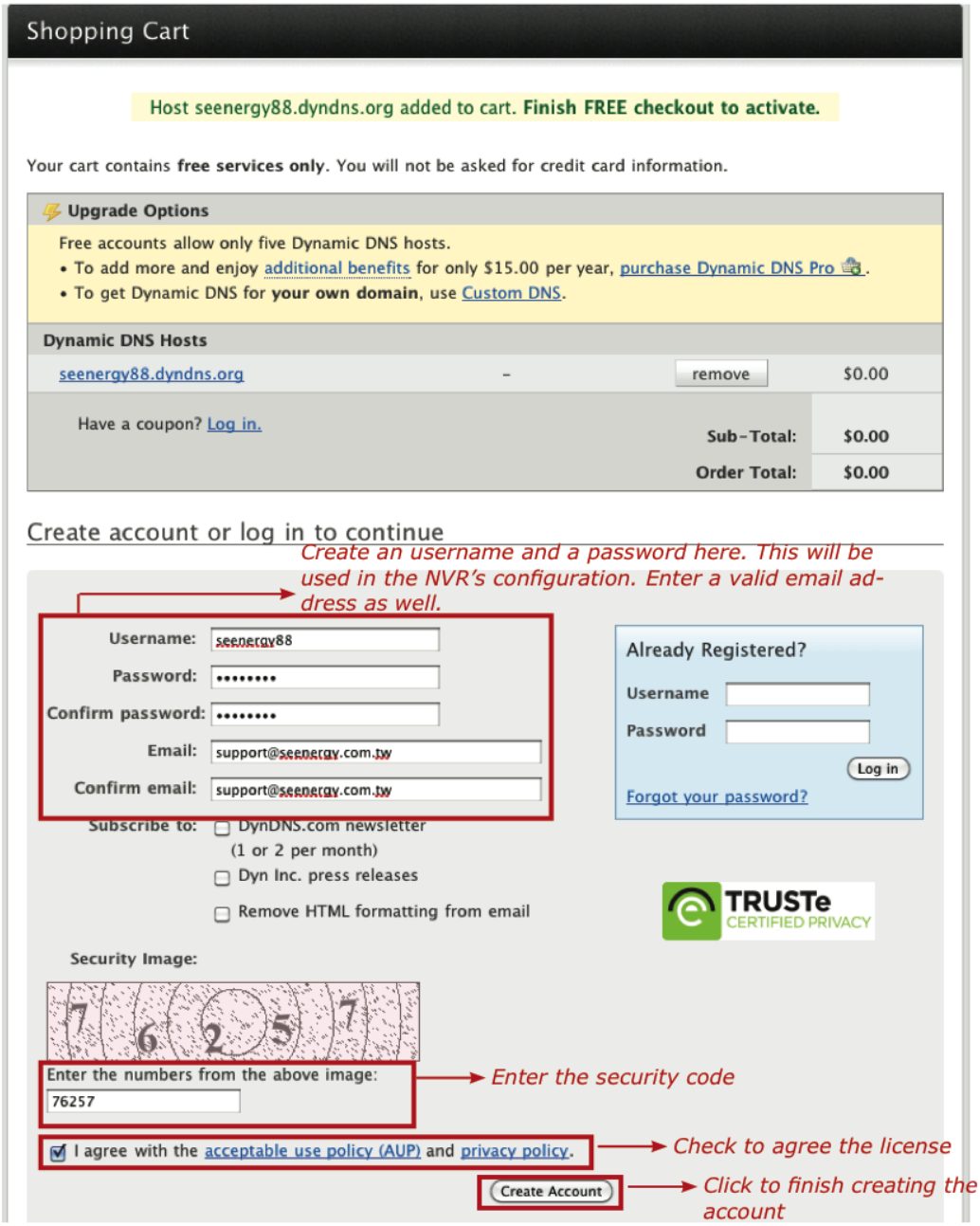

Dyn
DNS
EMAIL
LABS
Support
Cart
Sign In
What are you looking for?
About
Blog
DynDNS Free
Free DNS for 10 years and counting.
GET IT NOW
Home » Managed DNS: Rock Solid, Scalable, Reliable » DynDNS Free
Managed DNS
DynECT Managed DNS
DynECT Managed DNS Lite
Dyn Standard DNS
DynDNS Pro
DynDNS Free
Secondary DNS
Domain Registration
DNS Case Studies
Support
Contact Sales
Already a user? Sign In
Free DNS When You Need It
Dyn's legendary free DNS service allows you to create a hostname that points to your home or office IP address, providing a easy URL for you to remember anywhere you have internet access.
Dyn also provides update mechanisms for making hostnames work with your dynamic IP address, delivery of your DNS records to five DNS servers in five Tier 1 bandwidth datacenters around the world, fast propagation/reliable static IP caching for DNS TTL values and more.
Query volume
Get up to 648,000 queries per month.
Free service
Get two domains in 18 available hostnames like DynDNS.org, DynDNS-home.com and more.
Uptime when you're down
When you're offline, forward web requests or mark your host servers offline.
DynDNS Free
GET IT NOW
Additional & Add-on Features
WebHop

In order to properly configure the DDNS service function, please register a free DDNS domain name and account from DynDNS first. Go to http://dyn.com/dns/dyndns-free/ from the browser to do so.

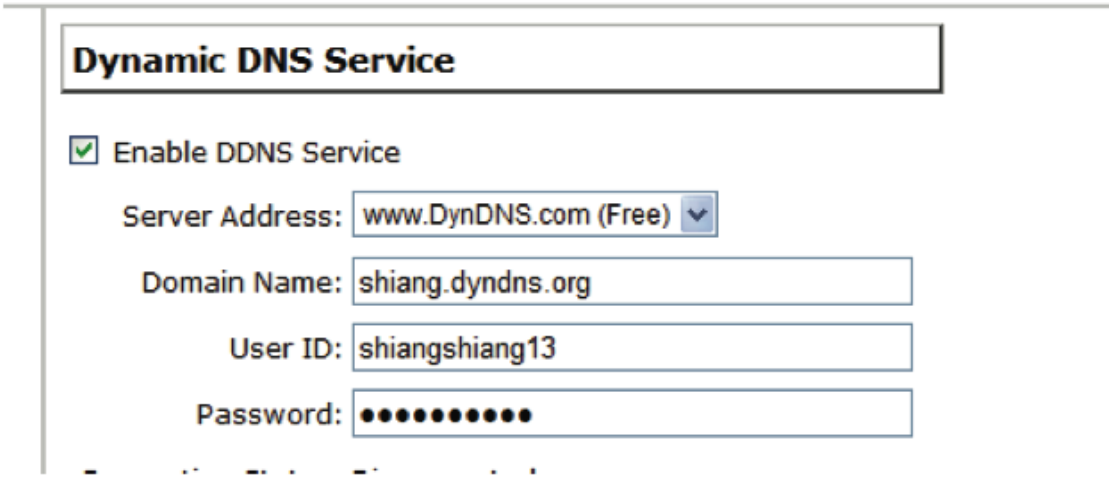

Add New Hostname
↑ Host Services
Note: You currently don't have any active Dynamic DNS Pro in your account. You cannot use some of our Host Service features. Paying for an Dynamic DNS Pro will make this form fully functional and will add several other features.
Enter a desired hostname here
Hostname:
myddns
dyndns.org
Wildcard Status:
Disabled [Want Wildcard support?]
Select a desired sub-domain from the drop-down menu
Service Type:
Host with IP address [?]
WebHop Redirect [?]
Offline Hostname [?]
IP Address:
60.250.139.170
Your current location's IP address is 60.250.139.170
TTL value is 60 seconds. Edit TTL.
Click here to automatically fill in the current public IP in the "IP Address field"
Mail Routing:
Yes, let me configure Email routing. [?]
What do you want to use this host for?
Select services and devices you would like to use with this hostname.
Work From Home Office or VPN:
vpn
remote file access
remote desktop
mail server
web server
chat server
ftp backup
ssh
database
voip
Hosting and Design For Web Sites and Blogs:
blog
gallery
wiki
portfolio
ecommerce
web page
Remote Access For Devices:
dvr
webcam
data storage
cctv
printer
alarm and security
thermostat
weather station
game server
home automation
Pick one or more options here (any is fine)
Add To Cart
Click to go to the next step

Fill in the necessary fields as illustrated above

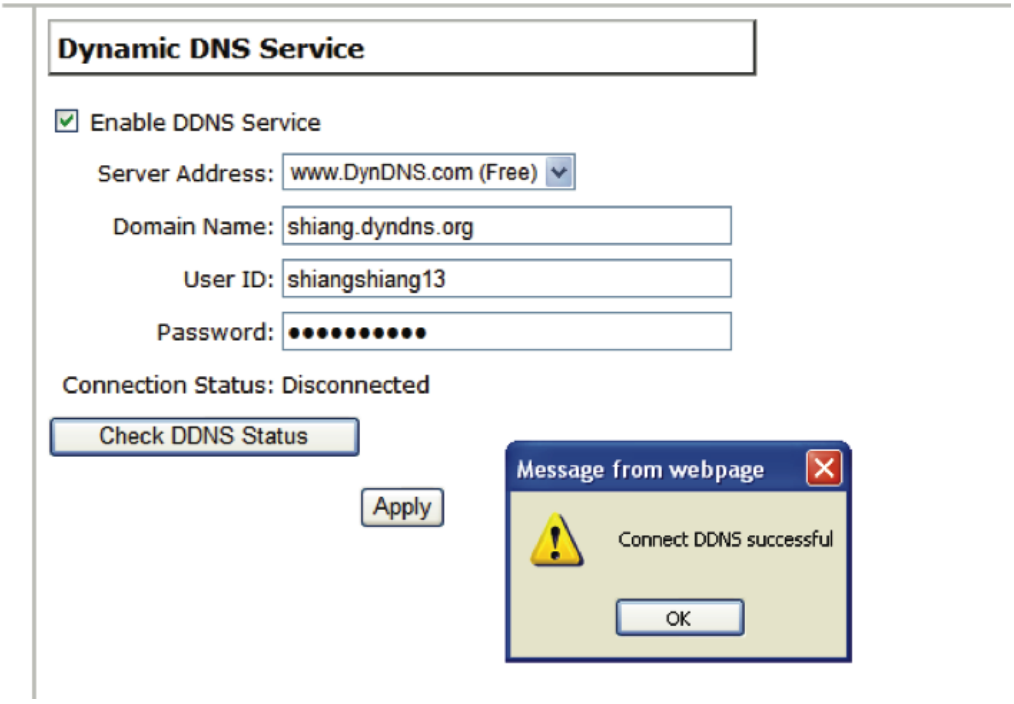
The page will check whether another user has used the hostname you entered or not as soon as you click the "Add to Cart" button. If you see below message, simply enter a different and click "Add to Cart" again


Shopping Cart
Host seenergy88.dyndns.org added to cart. Finish FREE checkout to activate.
Your cart contains free services only. You will not be asked for credit card information.
Upgrade Options
Free accounts allow only five Dynamic DNS hosts.
• To add more and enjoy additional benefits for only $15.00 per year, purchase Dynamic DNS Pro.
• To get Dynamic DNS for your own domain, use Custom DNS.
Dynamic DNS Hosts
seenergy88.dyndns.org - remove $0.00
Have a coupon? Log in.
Sub-Total: $0.00
Order Total: $0.00
Create account or log in to continue
Create an username and a password here. This will be used in the NVR's configuration. Enter a valid email address as well.
Username: seenergy88
Password: ••••••••
Confirm password: ••••••••
Email: support@seenergy.com.tw
Confirm email: support@seenergy.com.tw
Already Registered?
Username
Password
Log in
Forgot your password?
Subscribe to: DynDNS.com newsletter (1 or 2 per month)
Dyn Inc. press releases
Remove HTML formatting from email
TRUSTe CERTIFIED PRIVACY
Security Image:
Enter the numbers from the above image:
76257
Enter the security code
I agree with the acceptable use policy (AUP) and privacy policy.
Check to agree the license
Create Account
Click to finish creating the account

Once you get to the next page, fill in the necessary fields as illustrated above

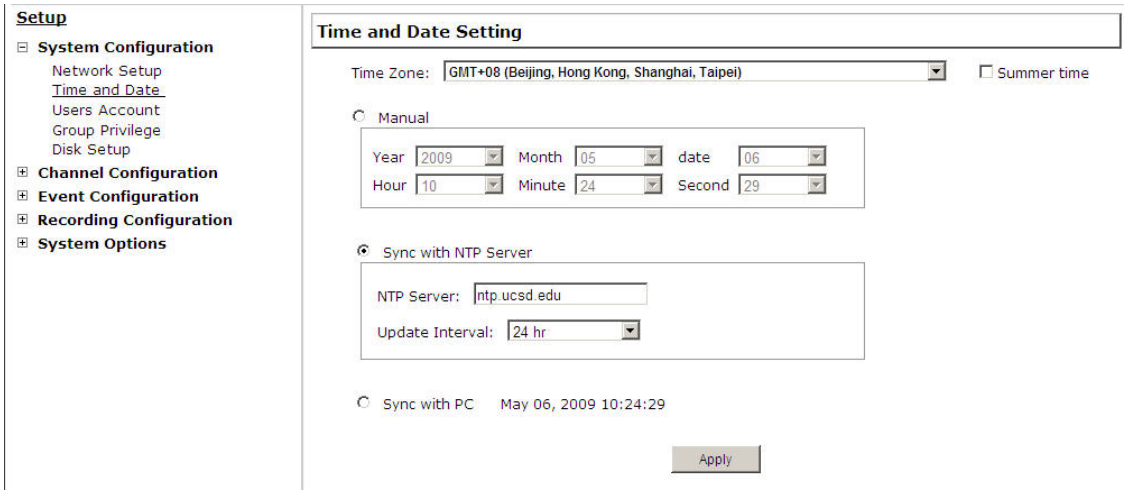


Go back to the NVR's DDNS service configuration page under "Setup" >> "System Configuration" >> "DDNS Service".
Fill in the domain name you picked during the registration in the "Domain Name" field and the username/password you created in the "User ID" and "Password" field and click "Apply" to finish



You can click the "Check DDNS Status" button to check the DynDNS service status. If you are getting a "Disconnected" message, it means that DDNS service server is down or the NVR is not connected to the Internet. If everything is ok normally, you should be prompted with a success message.

Time and Date



Set the time and date by selecting the time zone according to your location. It is imperative that you set the recorder's time correctly to avoid the following errors:

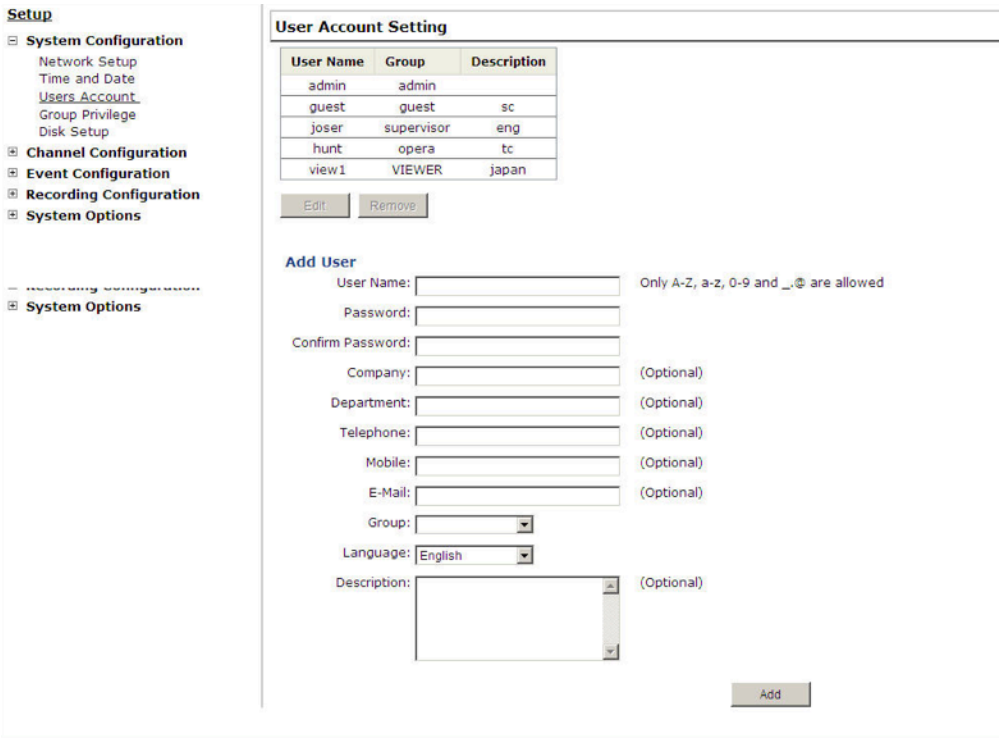
- Incorrect display time for playback videos
- Inconsistent display time of event logs and when they actually occur

After selecting the time zone, choose an option below to set the recorder time

- **Manual** – Use the drop-down list and configure the time manually
- **Sync with NTP server** – enter the hostname or IP address of a valid NTP server and set how often the recorder should synchronize the time with it by using the "Update interval" drop-down menu

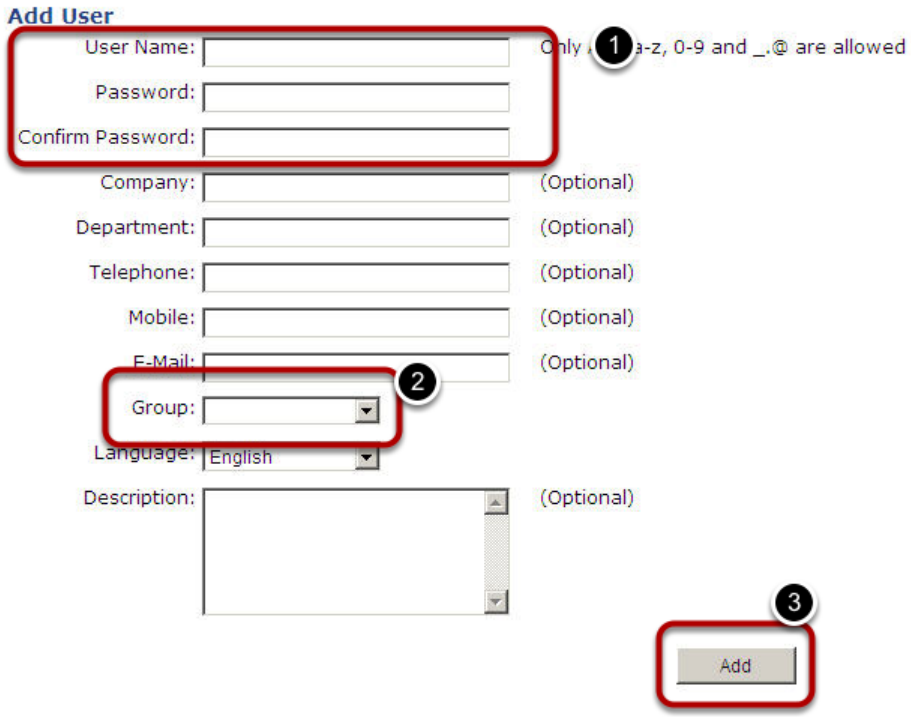
- **Sync with PC** – Check this option to synchronize the recorder time with the PC that you are currently using to access the recorder

User Account



Multiple users can access the recorder simultaneously. You can add, remove, and edit users by using options provided in this page to keep user information organized. Each recorder comes with a built-in "admin" account with password "admin". It's highly recommended to change the password upon your initial login.

Add a new user

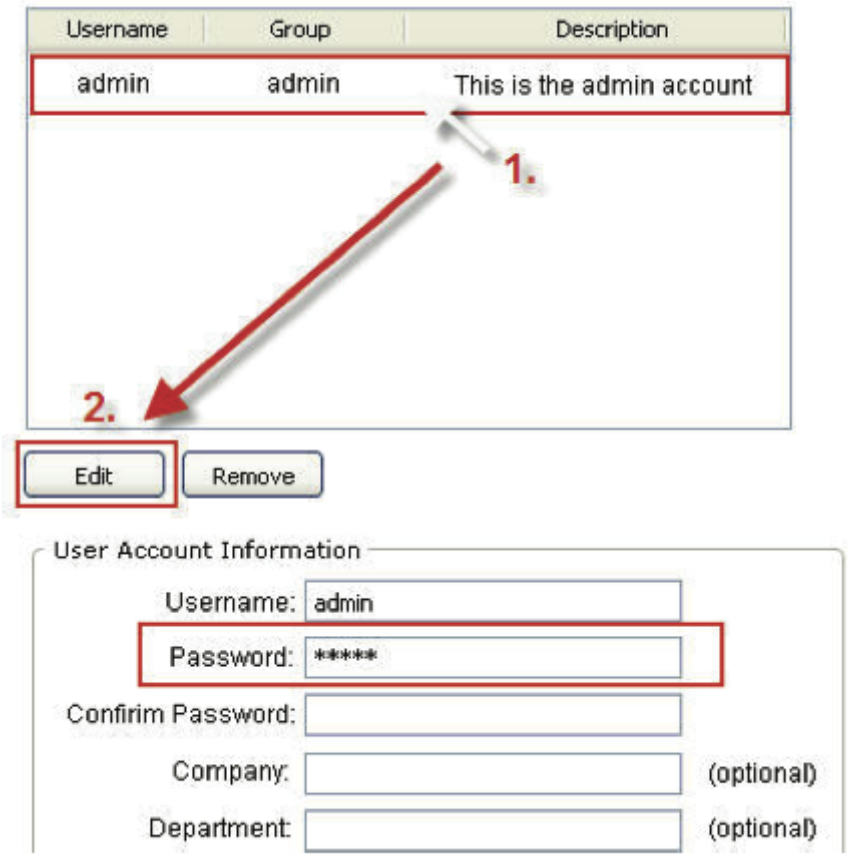


• Enter a username and password in "User Account Information". All other fields are optional for your own reference.

• Select a group from the "Group" drop-down menu to assign the new user to a particular group • Enter a short description for the account if you wish

• Click "Add" to finish configuration

Change the password of the "admin" account

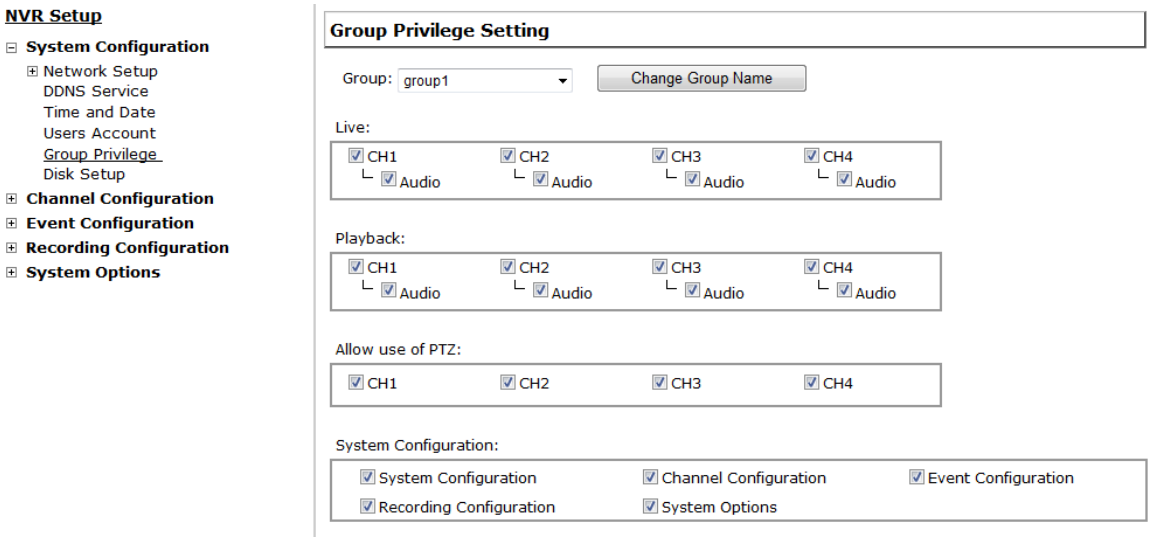


1. Click and highlight the "admin" account in the account list and click "Edit"

2. Its information should be displayed in "User Account Information"

3. Enter a new password in the "Password" field and enter it again in "Confirm Password"

Group Privilege



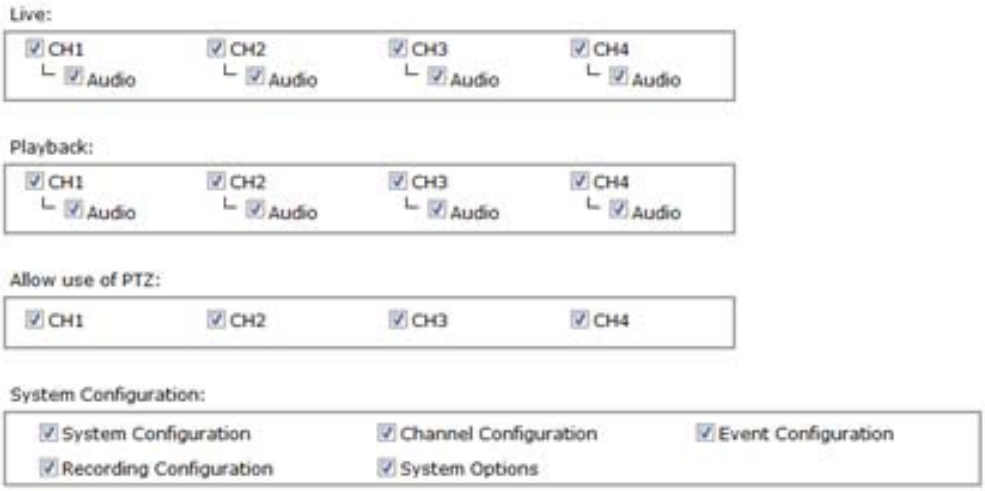
Group Privilege is where you can create multiple customized access policies for situations if you need the recorder to be accessed by users other than the administrator. You can do so by creating a group, and then remove access privileges for certain configuration pages or cameras. Users that are created and assigned to this group will have limited access instead of full administration rights.

The recorder comes with seven built-in groups and five built-in privilege profiles, except the "admin" and the "guest" accounts; the other five groups are fully customizable or you can simply assign a group with one of the default privilege profiles. You can, however, assign more than one users to the "admin" account if you wish to do so. The guest account comes with a "view-only" privilege in the "Live View" page, and users in this group do not have the power to make any changes in the "Live View" page or have access to pages other than the "Live View" page.

To create a group, select a group from the "Group" drop-down

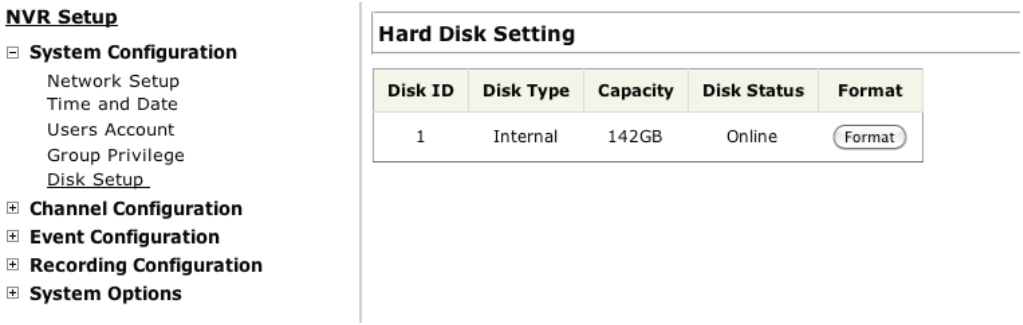
You can change the group name by clicking the "Change Group Name" button. A text box will be displayed for you to enter the new group.

Choose what type of privilege you would like this group to have from the "Privilege Type" drop-down menu.



Its access privilege will then be displayed. You can alter its settings by allowing or denying access to other cameras using the checkboxes instead of accepting the defaults

Disk Setup



Once you install a hard disk to the recorder, you would need to initialize it so that it can be ready for recording. You can obtain basic information about the disk you installed in this page.

To initialize it, simply click the "Format" button.

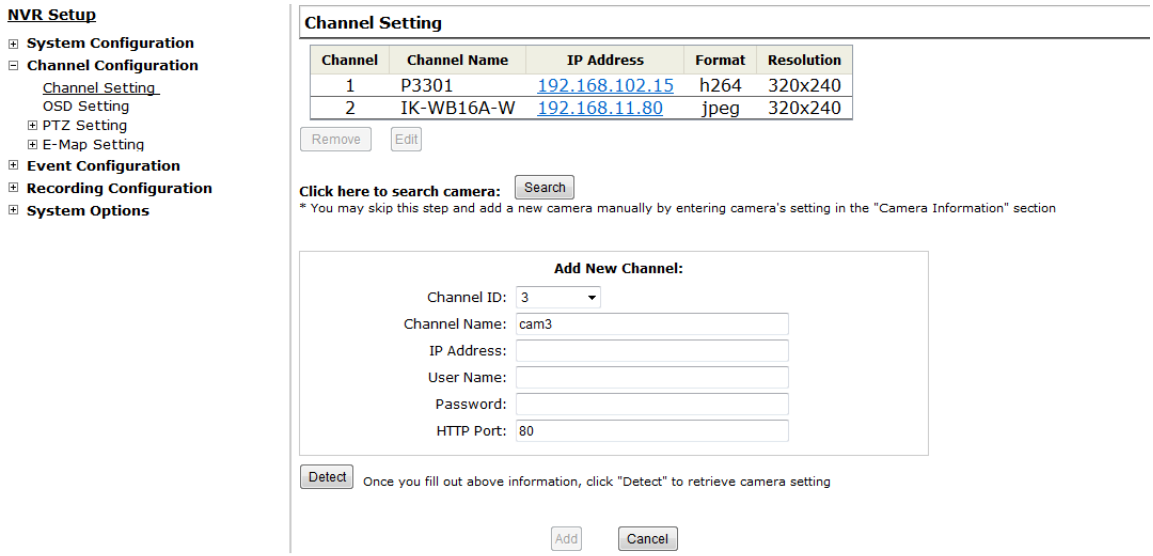
**This page will list the internal disks only. The HDD will be formatted in EXT3 file system.*

**Maximum capacity of each internal hard disk drive is 3TB.*

**The USB HDDs will only be listed in the "USB Backup" and "Hard Disk Status pages in "System Options". The USB HDDs have to be formatted in advance in FAT16/FAT32 or EXT3 file system. (FAT32 is recommended)*

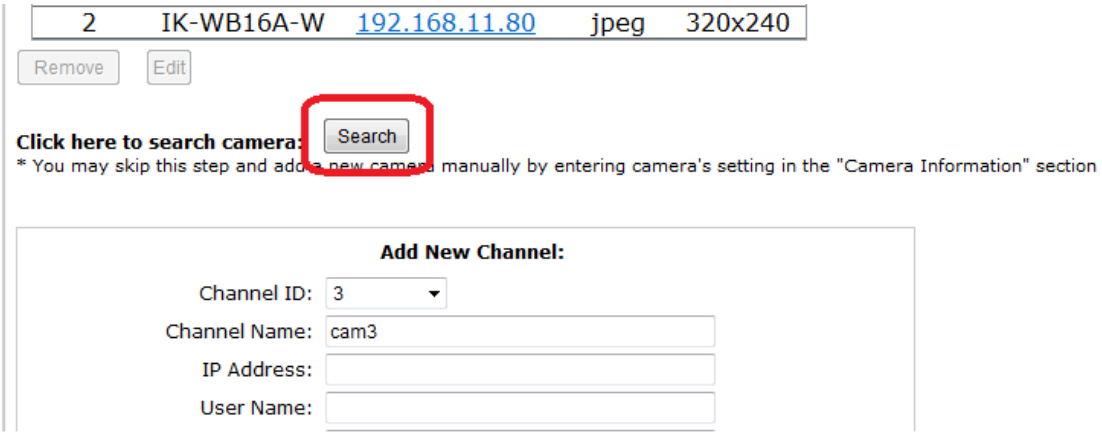
NVR Setup -- Channel Configurations (Web Interface)

Add a camera



The NVR provides two options for adding a new camera. Users have the option to let the recorder automatically find the cameras or it is possible to enter camera's information and add it manually.

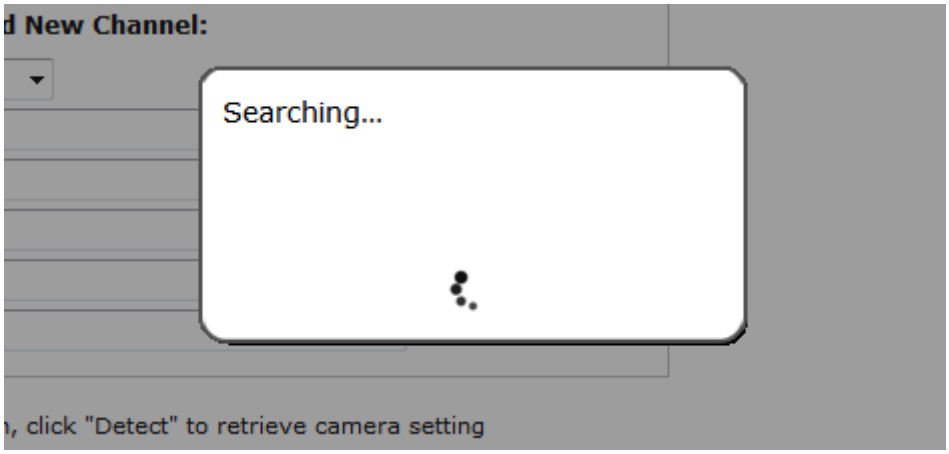
Automatic Search


2 IK-WB16A-W 192.168.11.80 jpeg 320x240
Remove
Edit
Click here to search camera:
Search
* You may skip this step and add a new camera manually by entering camera's setting in the "Camera Information" section
Add New Channel:
Channel ID: 3
Channel Name: cam3
IP Address:
User Name:

Click the "Search" button to perform the camera search.

Internet Explorer - Security Warning
Do you want to install this software?
Name: ActiveX Control of Media Client
Publisher:
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

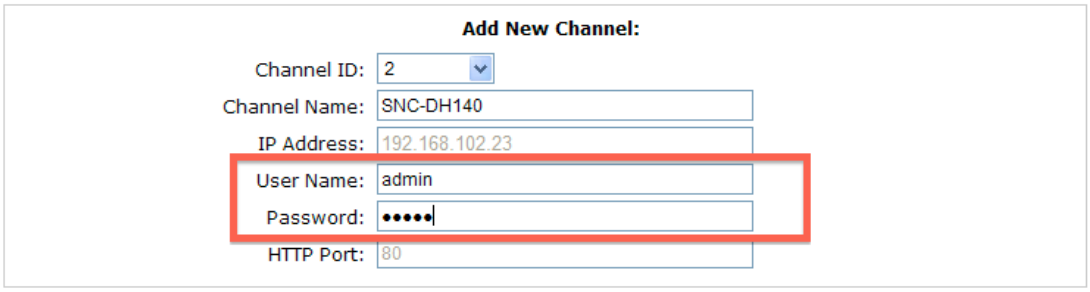
You should be prompted to install Active Control component the first time you visit the page in order for the search to function properly. Go ahead and click "Install"



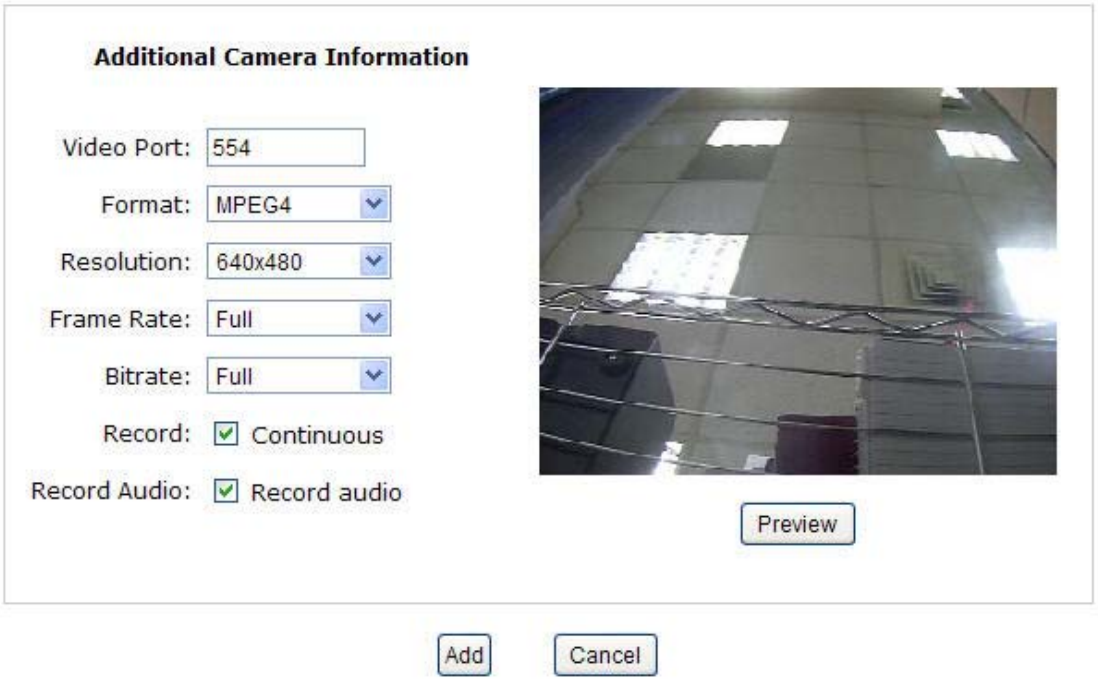
Once you have the ActiveX component installed, the search status should be displayed after clicking "Search"

AXIS P3301 192.168.101.86 80
Configure
*Select a camera from search result and click "Configure" to configure setting below.

Found cameras should be listed and simply select a camera from the list and press "Configure"



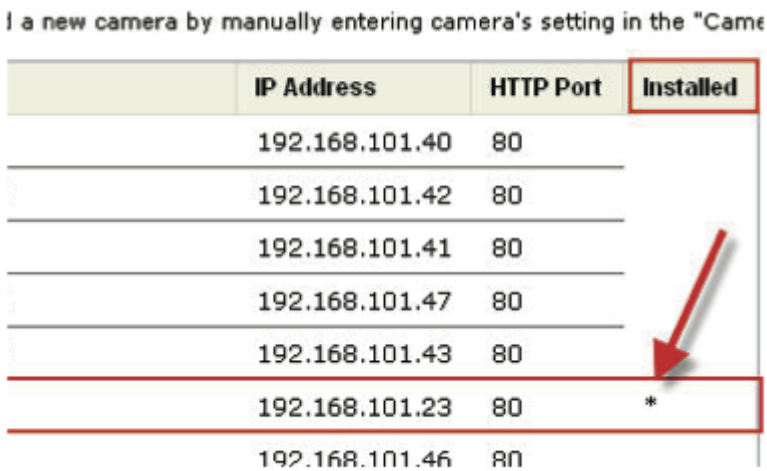
Its corresponding information should be displayed in the "Camera Information" section. Enter its username and password and select the channel ID and name the camera.



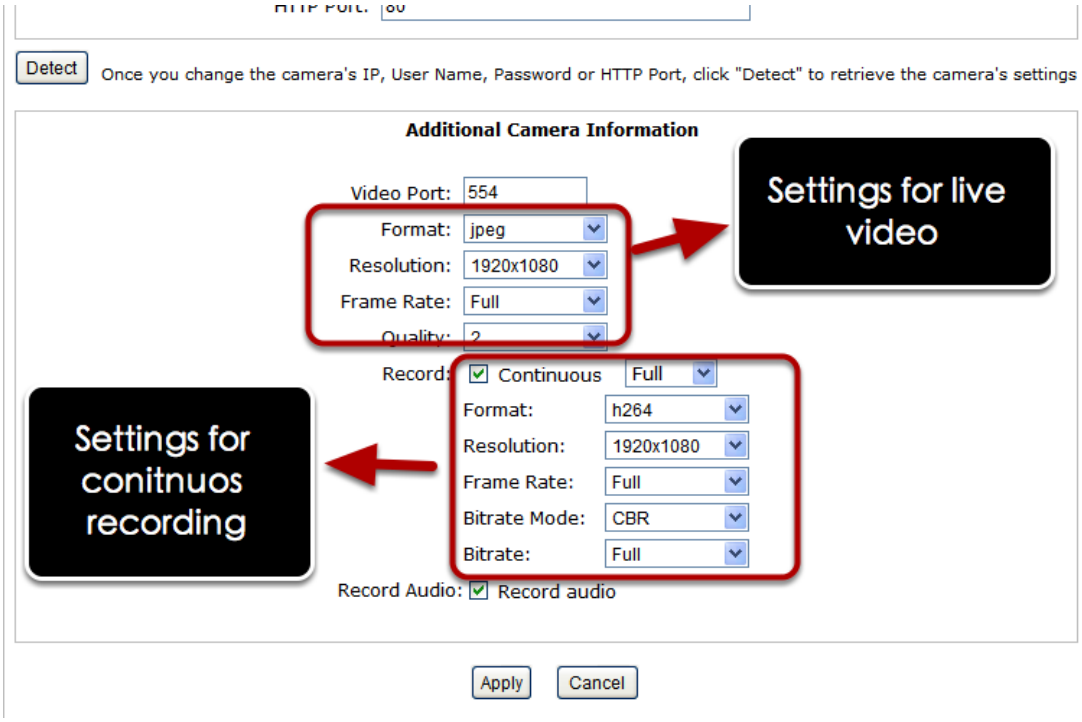
Click on "Detect" to establish connection between the recorder and the camera. If connection establishes successfully, camera's detailed information should be polled and displayed as below.

Adjust its video format, frame rate, resolution or bit rate...etc if you wish. You can also click on the "Preview" to preview the live video of the camera.

Click "Add" to finish adding the camera



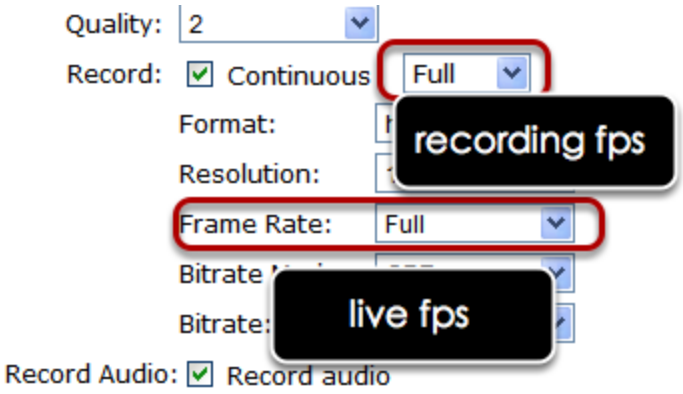
**If cameras are marked with "*" in the search result, it means those cameras are already configured and connected to the NVR.*



Once the camera's settings are polled and displayed, you can also enable "continuous" recording and adjust its recording quality settings before adding the camera.

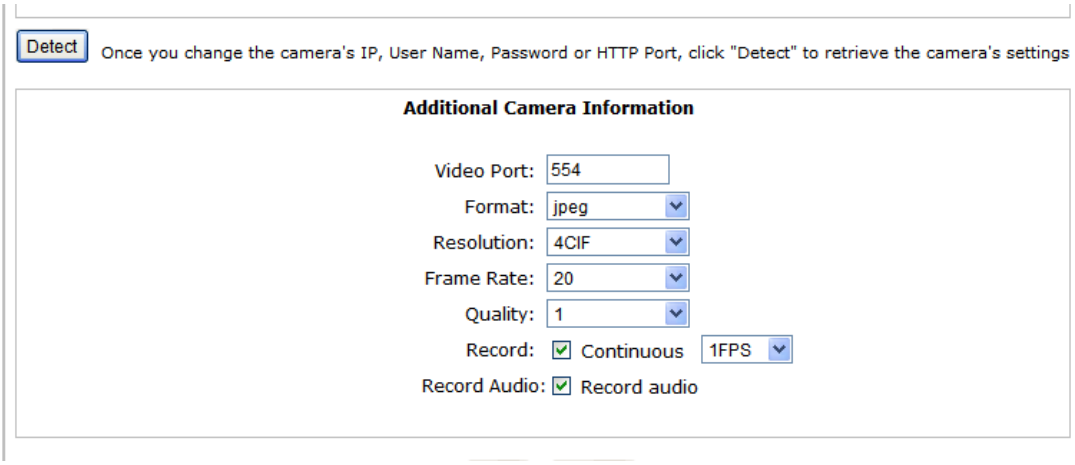
Some cameras are capable of multiple streaming profiles, in which different video codecs are used for different purposes.

You will be able to use different video format for continuous recording if it's a multi-stream capable camera.



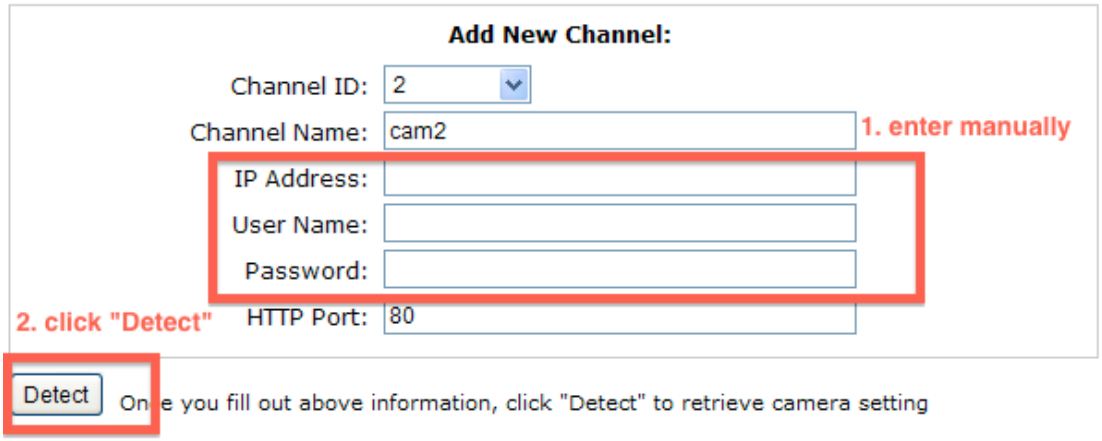
There are two types of fps settings here, one is the fps that NVR sets back to the camera, and this is the fps NVR will be receiving from the camera. The other is recording fps, which will be limited by the live fps. (ex. if the live fps is set to 10, choosing "Full" in the recording fps meaning it will only record at 10fps maximum.

For MPEG/H.264, only i frame or full (i+p frame) can be selected for recording fps.


Detect
Once you change the camera's IP, User Name, Password or HTTP Port, click "Detect" to retrieve the camera's settings
Additional Camera Information
Video Port: 554
Format: jpeg
Resolution: 4CIF
Frame Rate: 20
Quality: 1
Record: Continuous 1FPS
Record Audio: Record audio

For single stream camera, only the recording fps can be adjusted.

Add a camera manually

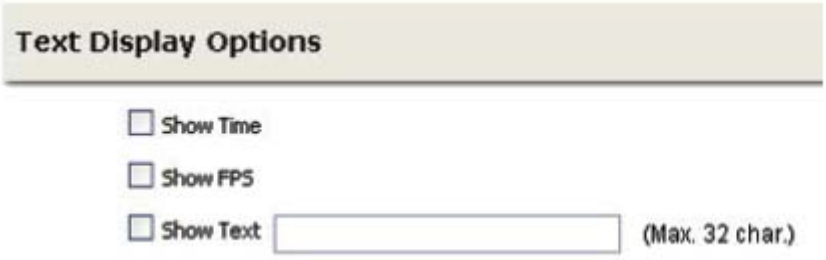


Simply follow the instruction described above but instead of using the "Search" function, enter the camera's IP address and credential in the "Camera Information" manually.

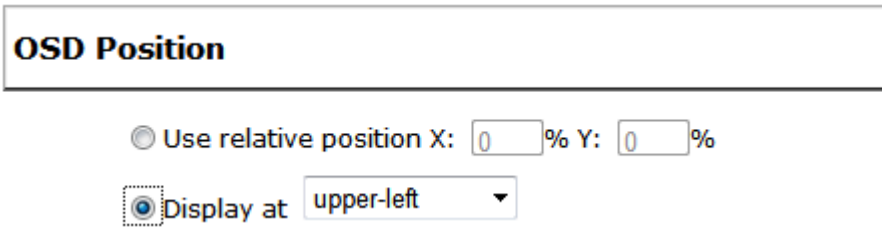
OSD Settings

The OSD (On Screen Display) allows users to add informational text message and embed it onto the video. By default, this function is turned off. To add texts to one or more videos:

Select a camera you would like to add text to and choose "Display OSD"

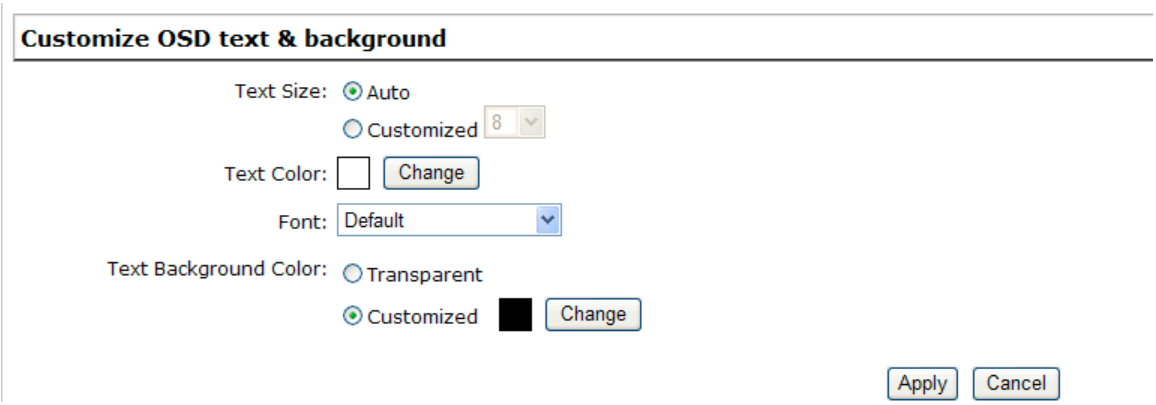


Choose one or more display options if you would also like the recorder to automatically embed the system time or the frame rate for you. Or simply choose to display a custom message of your own.



Next, define where the text will be displayed by either entering an X/Y value based on percentage or use the system pre-defined position from the drop-down menu.

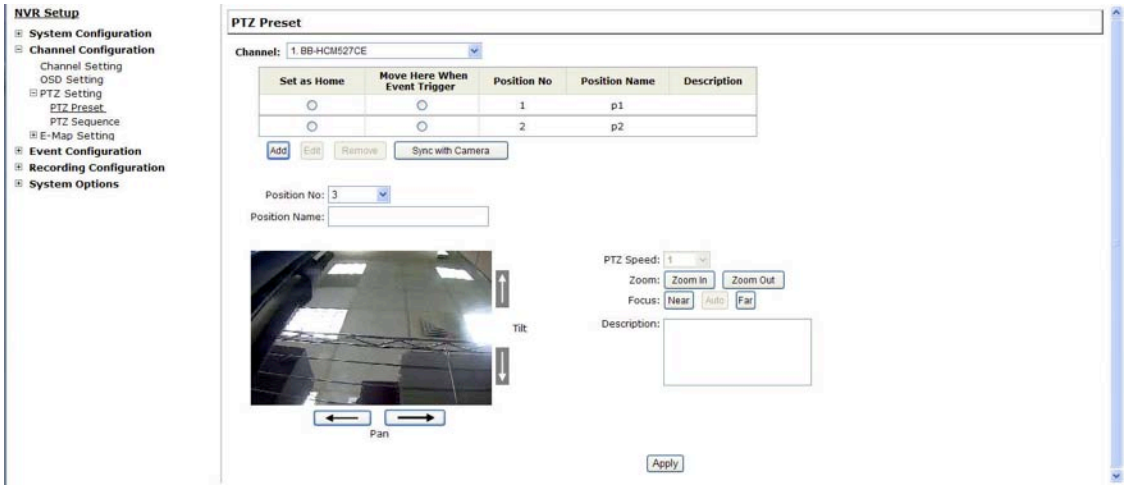
Click on the "Preview" button to see the preview of your setting and click "Apply" to save the configuration.



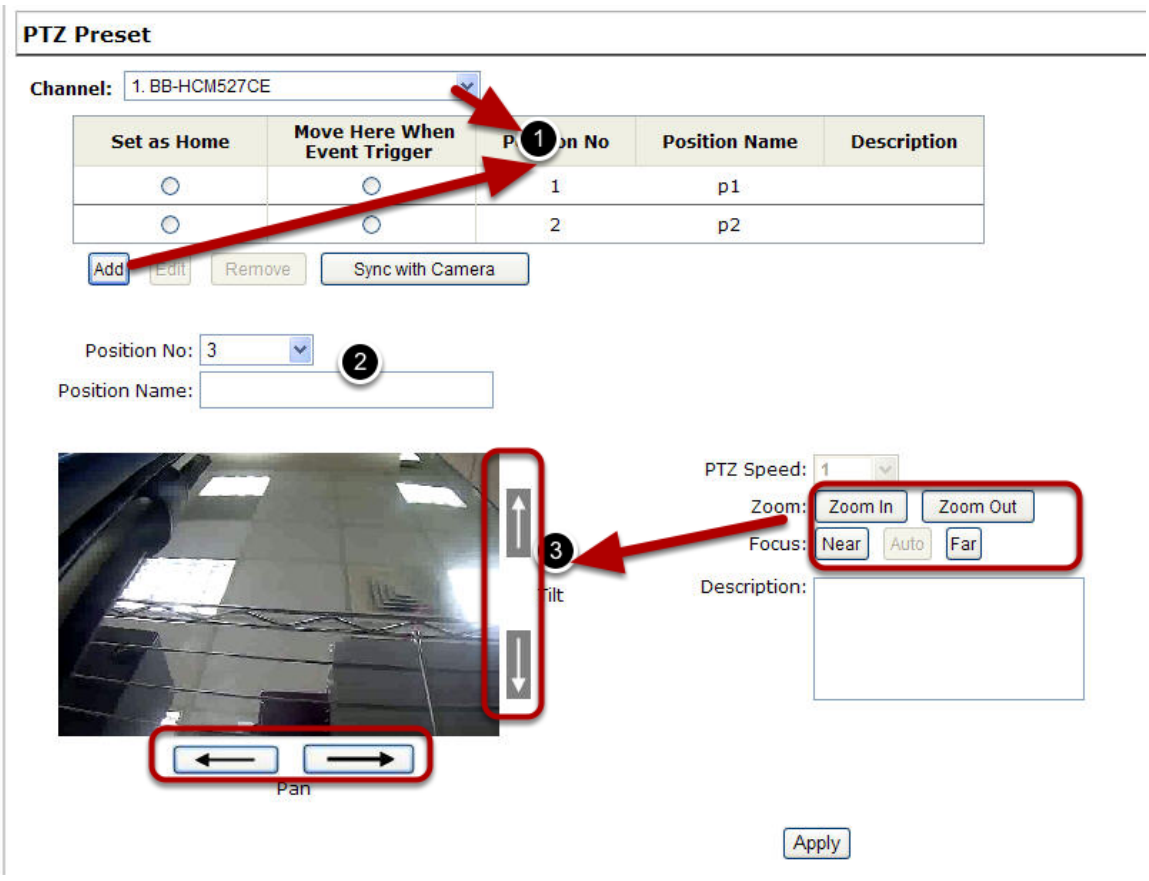
The texts can be further adjusted with changes to different size, color or font so they can be more visible on the video.

PTZ Setting

PTZ Preset Settings



The recorder supports PTZ cameras and can set multiple preset points or retrieve and manage preset points that are set in the camera. This is helpful if you need to monitor multiple spots in one area from a particular camera.

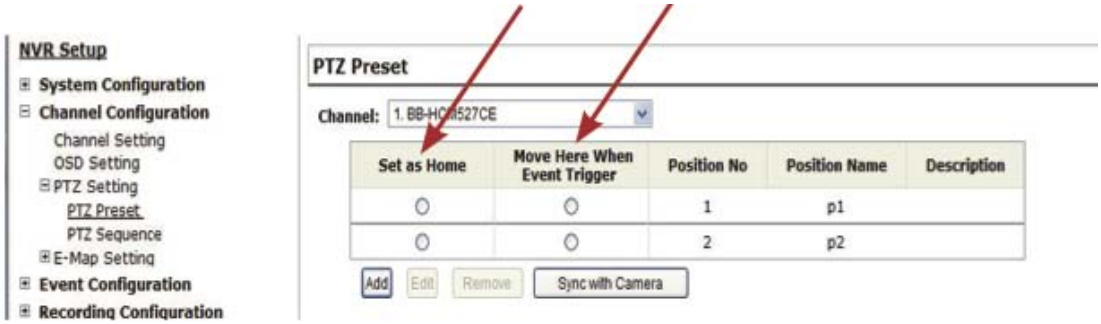


To set up PTZ preset points:

1. Select a camera from the "Camera" drop-down menu and click "Add".

2. Select a position number for the preset point from the "Position Number" drop-down menu and fill in a name in the "Position Name" field for easier identification.

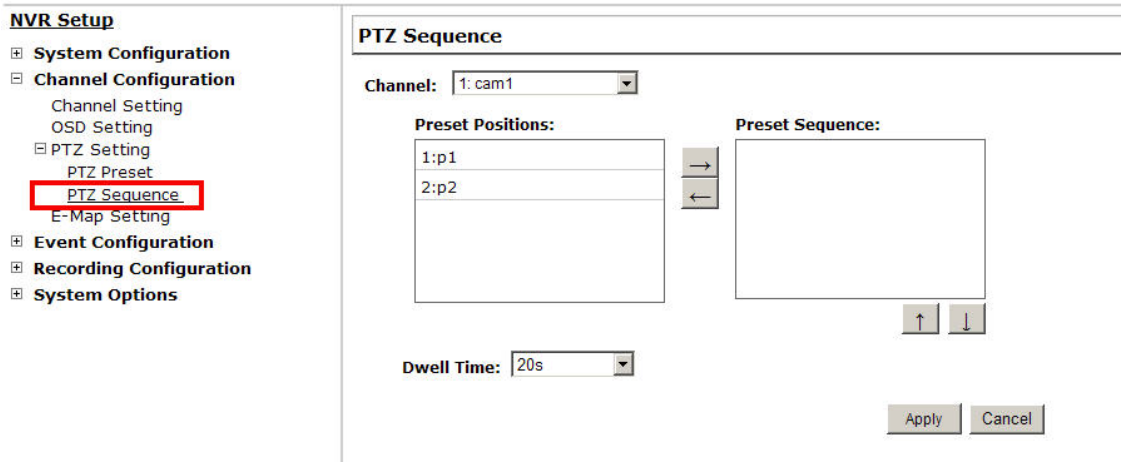
3. Use the PTZ control provided in the configuration page to set the preset point



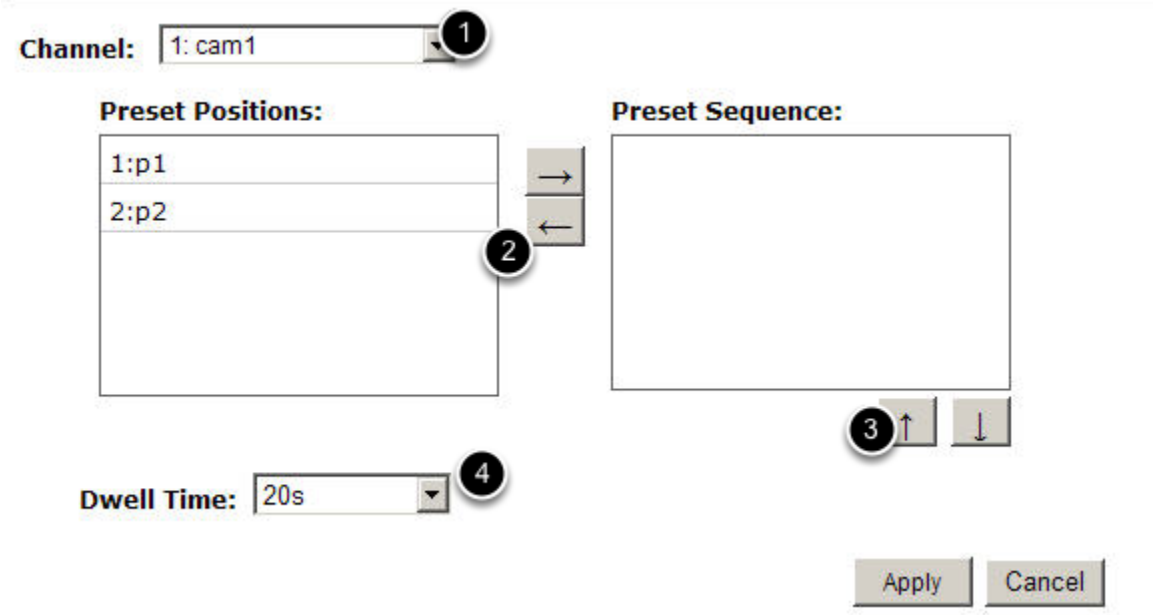
Ultimately, you can choose to make this preset point a "Home" point among all other preset points, as well as making the camera to move to this particular point when an event is triggered.

** "Move Here when Event Trigger": In order for this function to work properly, please also complete configuration in "Event Configuration" >> "Event Trigger"*

PTZ Preset Sequence



Once you have multiple preset points defined for a camera, it is convenient for monitoring to set up the sequencing viewing among those preset point and let the recorder automatically switch between them for you.



To configure preset sequence for a camera,
1. Select a channel from the "Channel" drop-down menu. The available preset points should be listed in "Camera Presets" section.

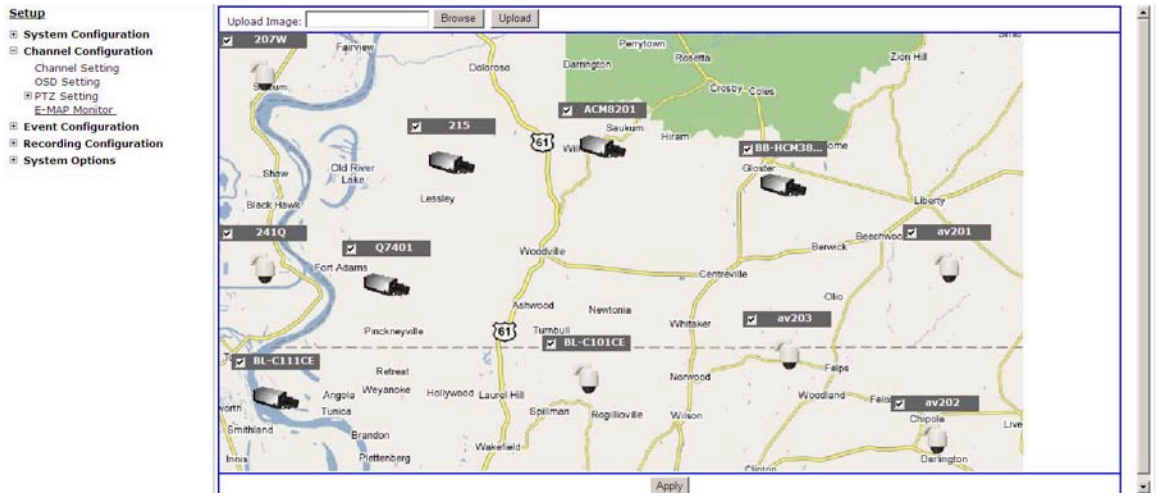
2. Pick the ones you like for sequence viewing and press the "->" button to move them to the "Preset Sequence" section, then

3. Use the up and down buttons to adjust their sequencing positions.

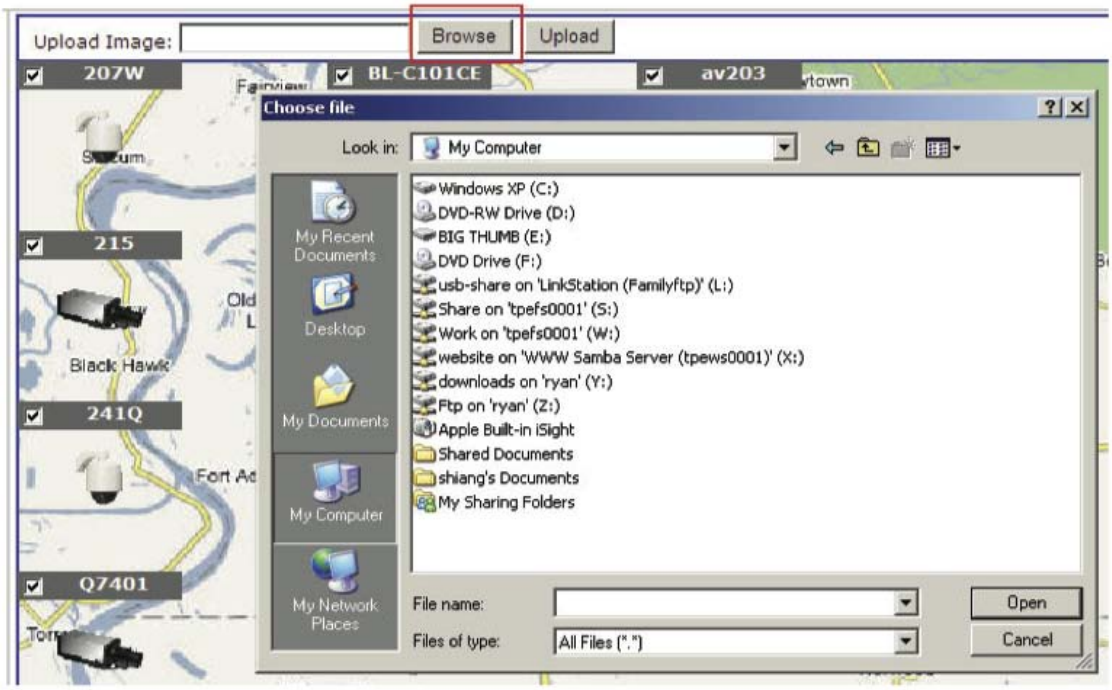
4. Finally, select a dwell time from the drop-down menu and click "Apply" to save the configuration

E-Map Setting

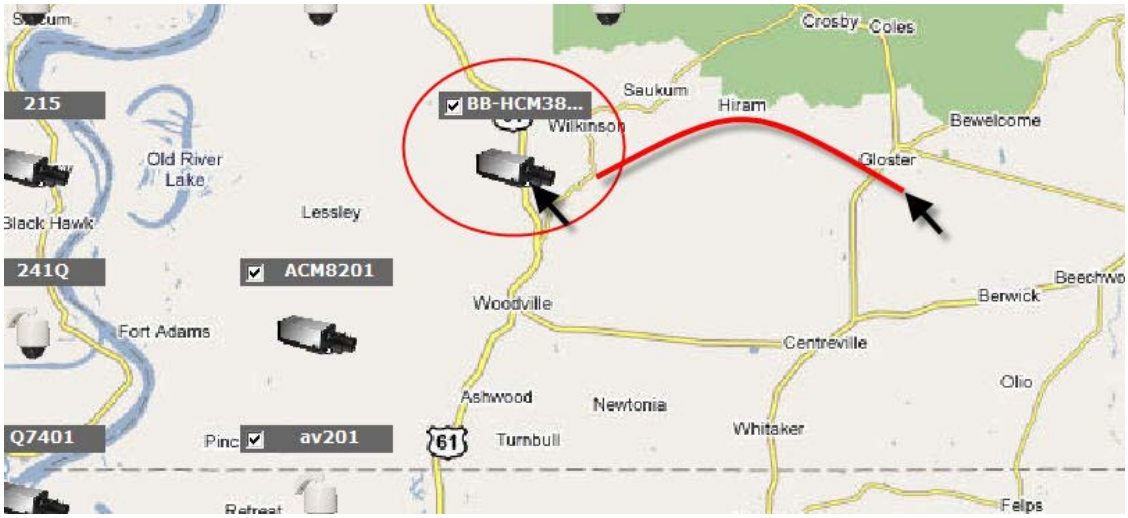
Local Map Setting



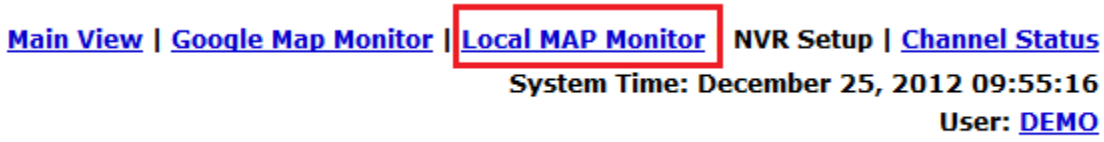
E-Map monitor is a function that alerts users whenever there is an event triggered (e.g. motion detected) from a camera with a geographical perspective. With this function, users can quickly identify which camera has detected an unusual event and where this event is happening. This function works by incorporating the event detection function as well as the recording function, which, as a result, helps users take all the necessary actions when an unusual event occurs.



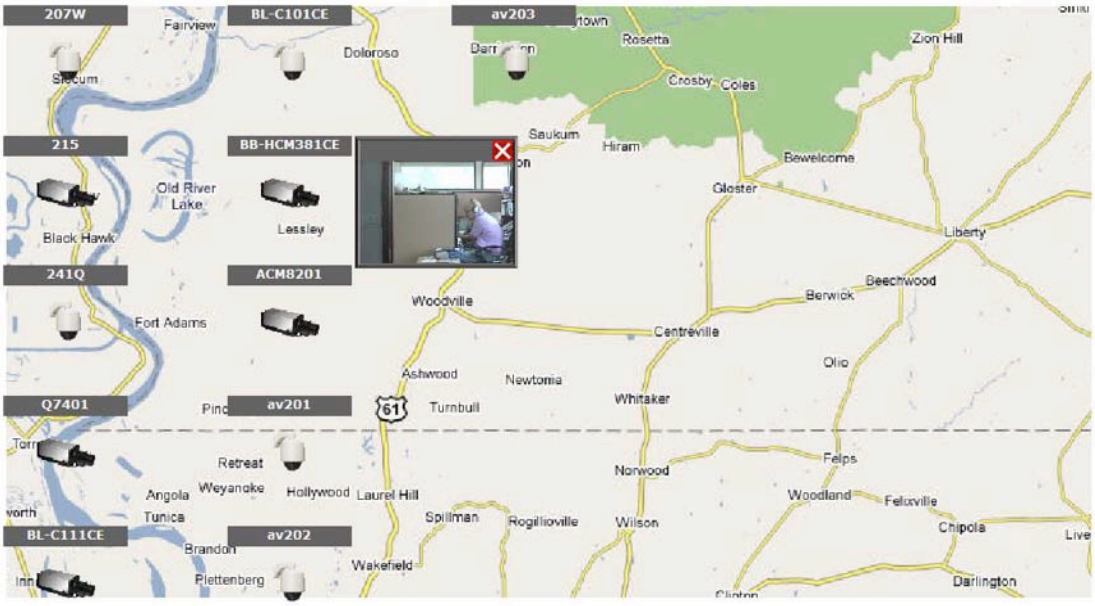
To replace the map, click "Browse" button to locate the new map image file from the local PC and then click "Upload".
** Only JPG, PNG, and GIF file formats are supported with file size under 100KB.*



Then click and drag the camera icon to move the camera to define its location.



Access the Local Map Monitor page from the upper-right hand corner menu.



When the NVR receives an event triggered from any of the cameras, their videos will be displayed on the E-Map and you can double-click on the video to enlarge it.

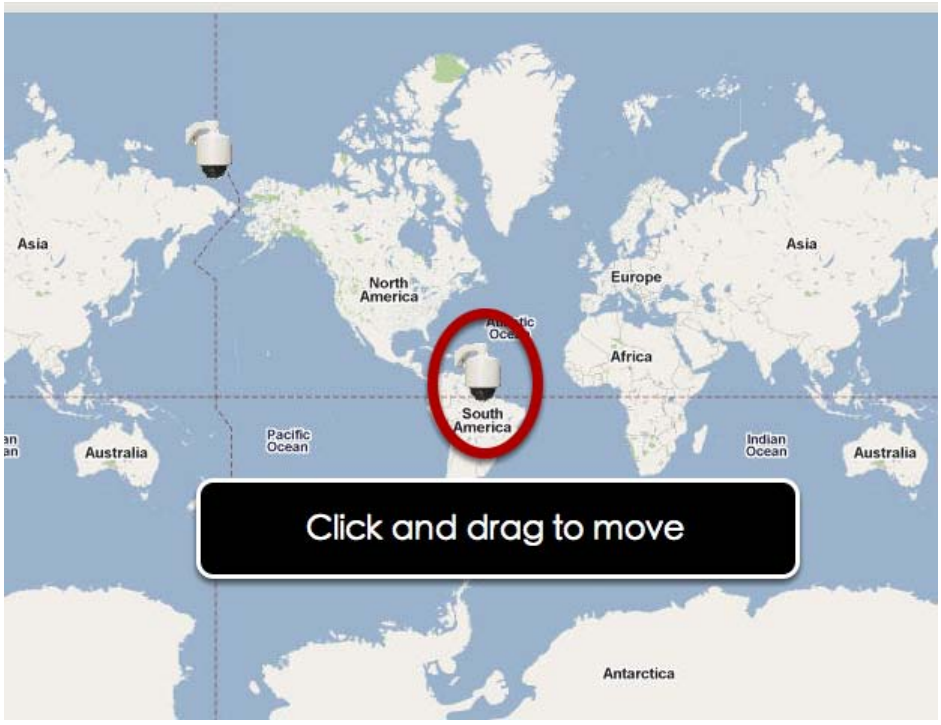
Google Map Setting

The Google Map monitor is a similar function to the aforementioned E-Map monitor. It is useful if you are managing multiple cameras from different locations.

To configure locations of each camera, first determine the location you'd like to place the camera to on the map. You can do so by:

1. Zoom in to a smaller area by using the zoom control bar on the map
2. Zoom in to a smaller area by using the mouse scroll button

You can also go to a specific place on the map by entering its address or the name of the place in the "Address or places of interest" field



Once the location has been determined, click and drag the camera icon to move it to the desired location

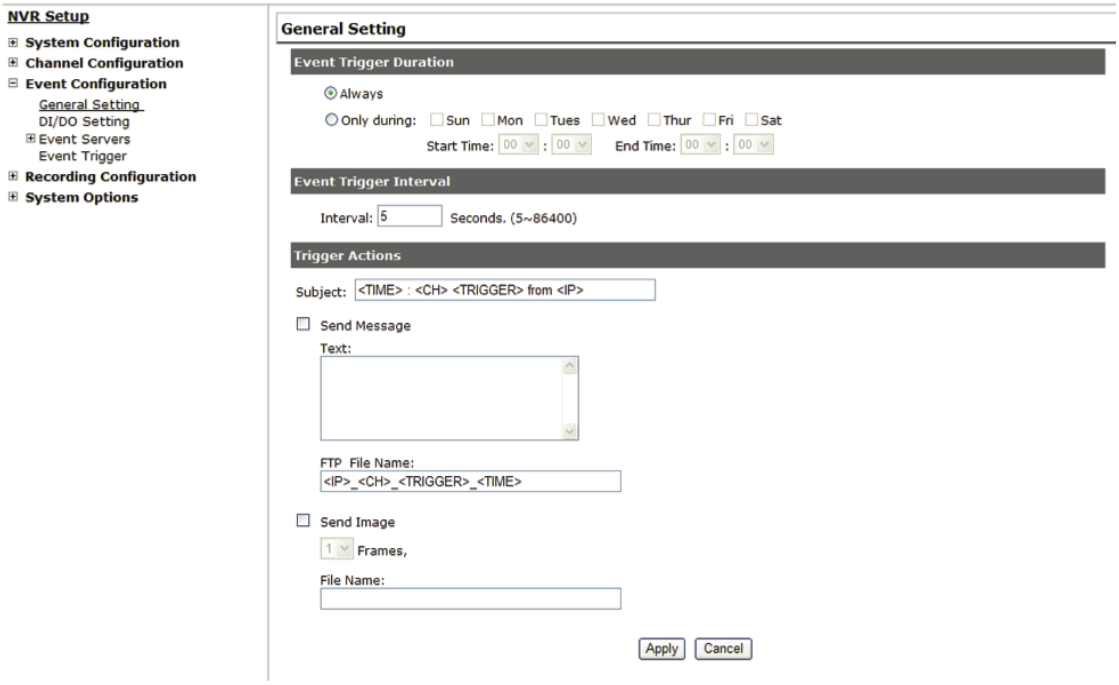
** The Google Map Monitor requires active Internet connection and cannot be used in conjunction with the regular E-Map monitor function.*

NVR Setup -- Event Configurations (Web Interface)

Event Configuration

The "Event Configurations" section allows users to define conditions that constitute an event, its corresponding trigger action and when it will be triggered. Such setting can reduce the management overhead and notify the administrator only when it's necessary.

General Settings



The general settings section can help you quickly configure when an event is triggered, how often events are triggered and the corresponding actions when events are triggered.

Start the event configuration by defining the general settings:

Define when an event will be triggered

• Choose "Always" or "Only during…" under "Event Trigger Duration" • For the "Only during…" option, choose the days by using the check-box and then define the time range in those days in the "Start Time" and "End Time" fields that you would like the event trigger function to be enabled.

How often an event is triggered

• Set a time interval under "Event Trigger Interval" to define how often events are triggered

Trigger action

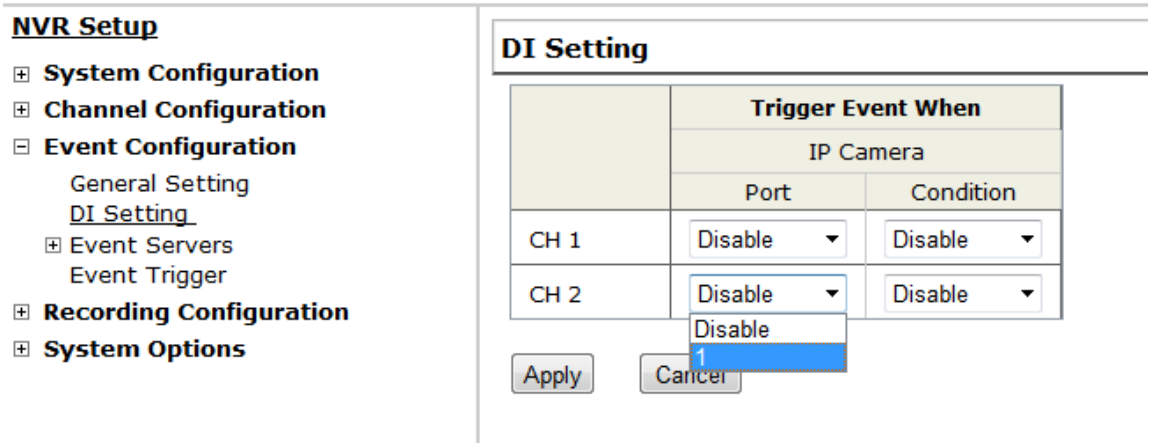
Now that you have the event trigger duration and interval defined, choose what action to be taken during an event trigger:

• You can choose to have the recorder send out the first few frames of the video recorder upon an event is triggered • You can also choose to

have the recorder send out a warning message in e-mail or in txt file format and upload it to an destined FTP server

DI Settings

This function allows users to manage camera's digital input and output ports right from the recorder. You can setup the recorder to receive triggers from a particular camera's input port and trigger a device, such as an alarm that is connected to the camera's output port.



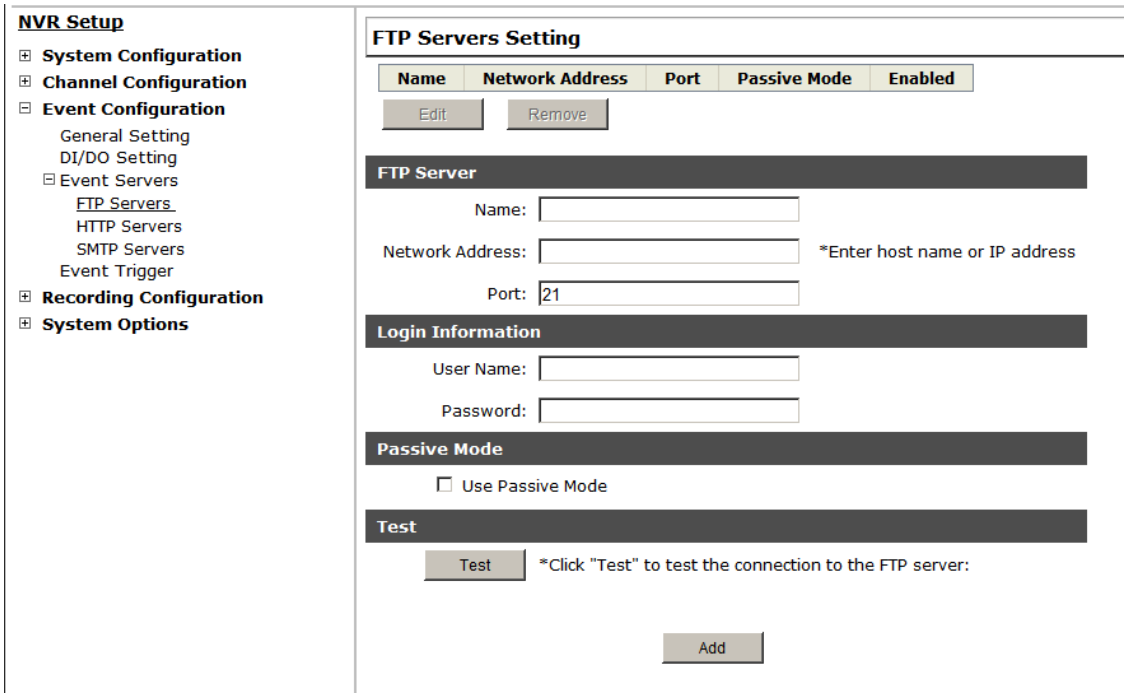
1. For cameras that come with physical digital input ports, their ports will be listed in the far left drop-down menu.
2. Pick the desired channel for I/O mapping, and then select the camera's input port from the drop-down menu.
3. Select the trigger condition from the "Condition" drop-down menu.

**Only connected cameras will be displayed in the list.*

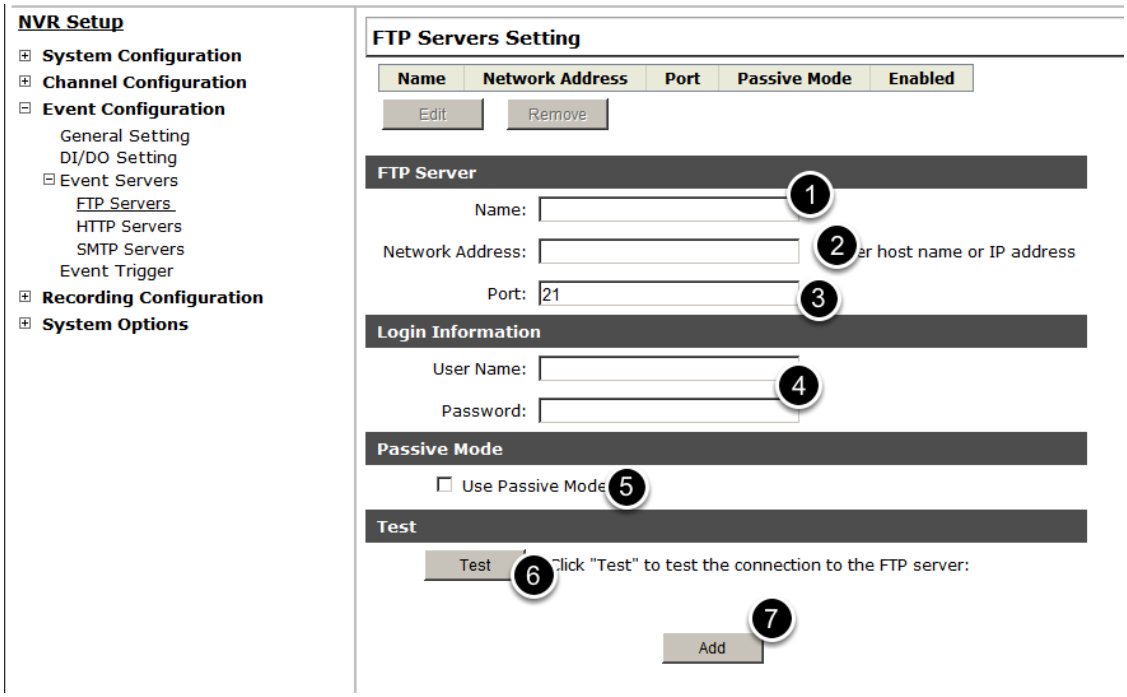
**Some cameras only allow one trigger source be configured at a time, e.g.:*
If the camera has the motion detection function turned on, its digital input will be disabled and vice versa. Under such circumstance, if you set to use camera's digital input port as the event trigger source, you will not be able to select motion detection as the trigger source for this camera under "Event Configurations" >> "Event Trigger" setup page.
** The image(s) that are uploaded to the destined FTP server or emailed to a destined mail recipient are in their own proprietary image file format (.h4i or .p4i), which can only be opened by the NVR media player.*

Event Servers

Configuring an FTP server



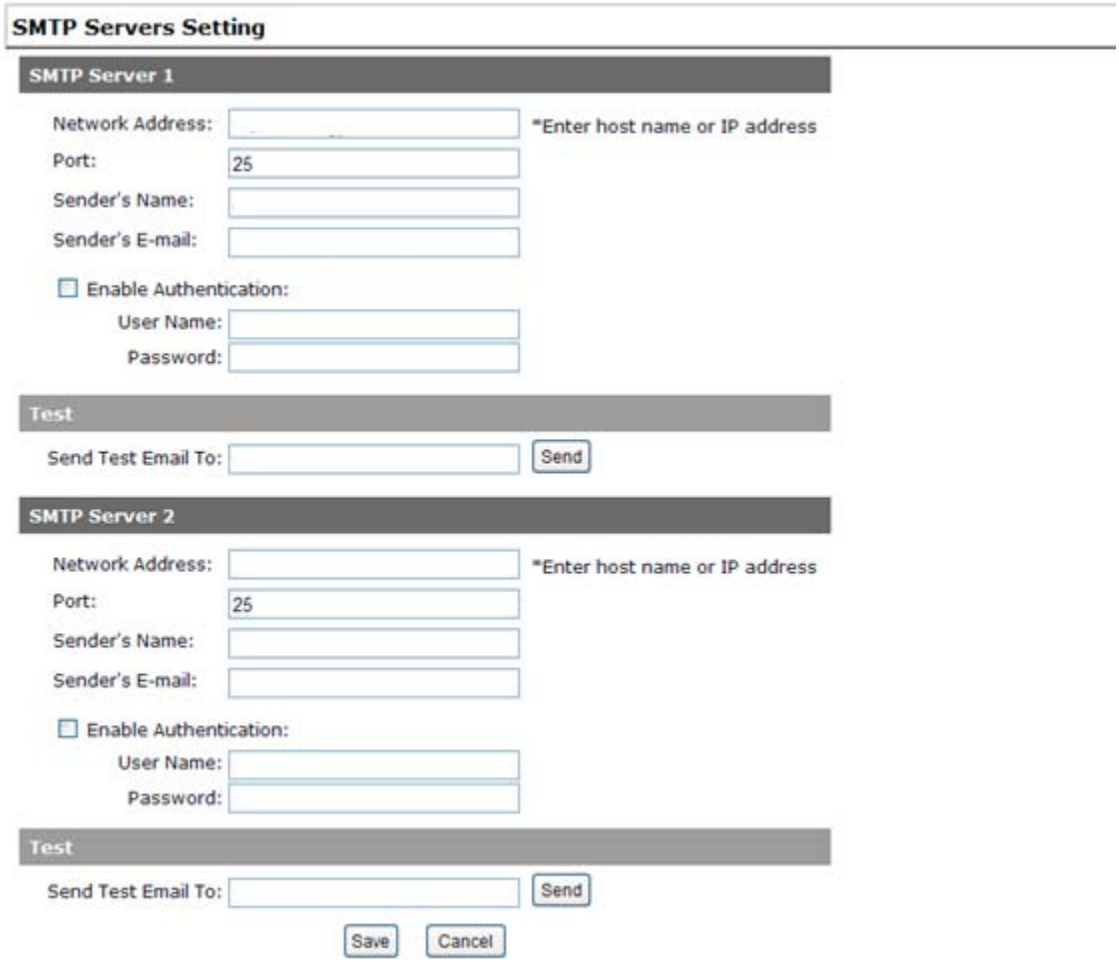
Event servers are to be used with event trigger actions. In case of unusual motion detected by the camera or a disk failure, the recorder can send notification with the acceptable format (image/txt) to a destined event server according to the configuration.



To add an FTP server,

1. Start by giving a name to the server that you are adding to the recorder
2. Enter the hostname or the IP address of the FTP server
3. Enter the communication port of the FTP server (usually port 21)
4. Enter the username and password of the FTP server if it's required
5. Check "Use Passive Mode" if it's required or leave it unchecked to use active mode
6. Click "Test" to verify if all information is entered correctly and the connection to the FTP server can be established successfully
7. Click "Add" for the settings to take effect

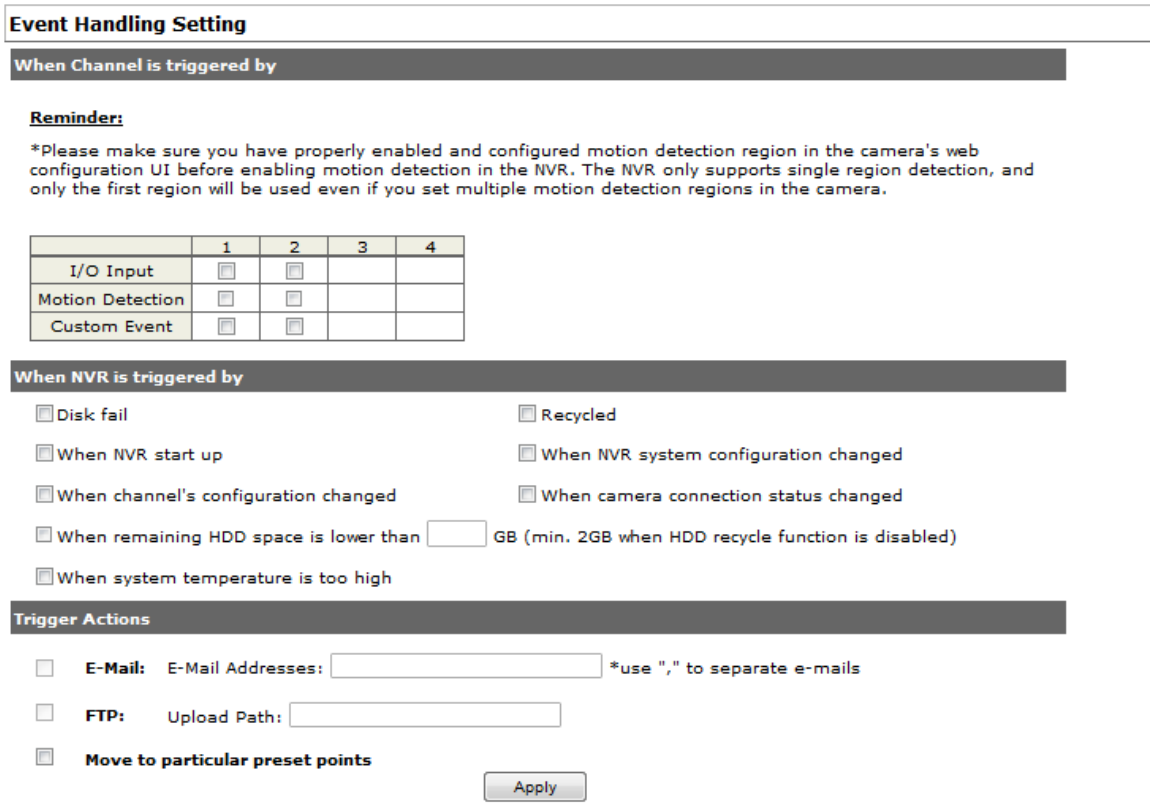
Configuring an SMTP server



1. Enter the hostname or the IP address of the SMTP server
2. Enter the port of the SMTP server
3. Specify the sender's name in the "Sender's name" field
4. Enter the sender's e-mail address
5. Check "Enable Authentication" and enter the username and password of the SMTP server if it requires authentication
6. Click "Apply" to save the configuration

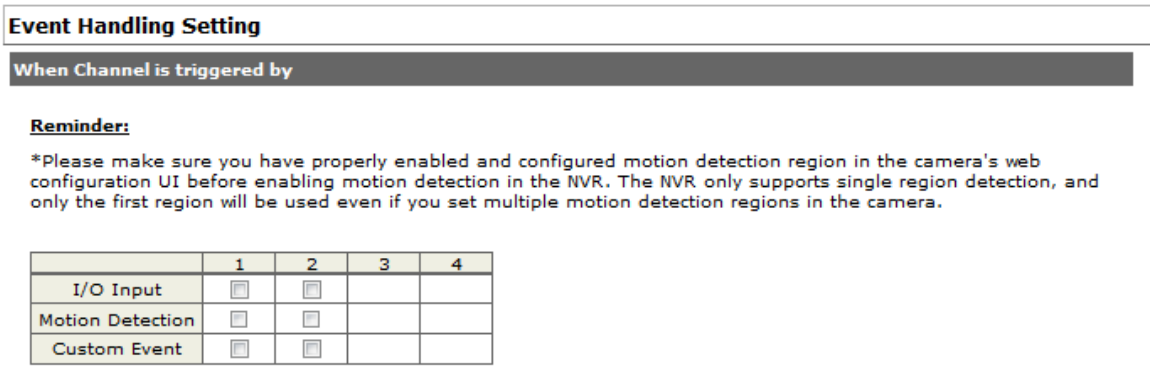
*The NVR supports SMTP servers that use base64 or MD5 authentication methods.
* 3rd party free E-mail services such as Gmail, Hotmail, or Yahoo mail are not supported.

Event Triggers


Event Handling Setting
When Channel is triggered by
Reminder:
*Please make sure you have properly enabled and configured motion detection region in the camera's web configuration UI before enabling motion detection in the NVR. The NVR only supports single region detection, and only the first region will be used even if you set multiple motion detection regions in the camera.
1 2 3 4
I/O Input
Motion Detection
Custom Event
When NVR is triggered by
Disk fail
Recycled
When NVR start up
When NVR system configuration changed
When channel's configuration changed
When camera connection status changed
When remaining HDD space is lower than GB (min. 2GB when HDD recycle function is disabled)
When system temperature is too high
Trigger Actions
E-Mail: E-Mail Addresses: *use "," to separate e-mails
FTP: Upload Path:
Move to particular preset points
Apply

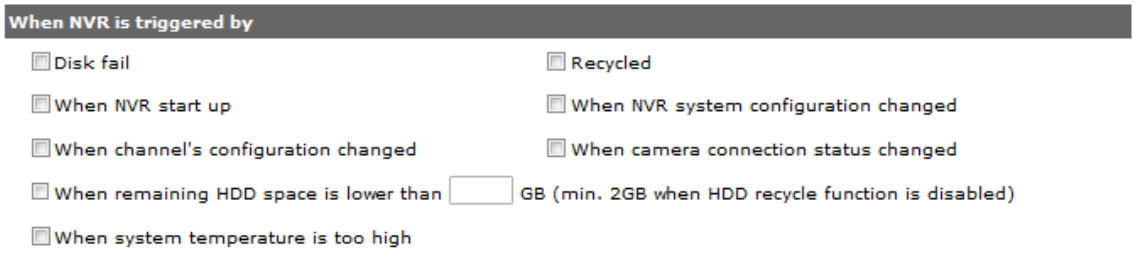
We have finished defining how an event will be triggered and which servers will be receiving notifications in the previous two sections, now we can finish up the event configuration by setting:

- Which channels will have event trigger function enabled
- What is considered to be an event
- Where the warnings will be sent to and how they will be sent

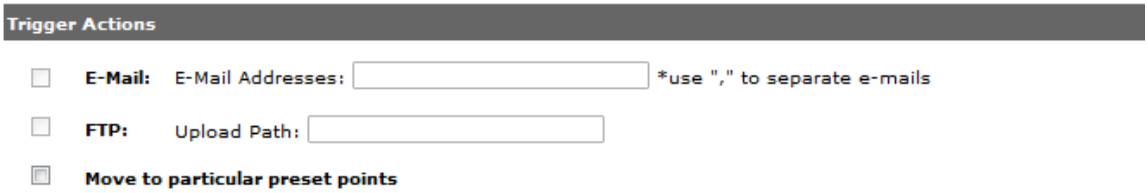

Event Handling Setting
When Channel is triggered by
Reminder:
*Please make sure you have properly enabled and configured motion detection region in the camera's web configuration UI before enabling motion detection in the NVR. The NVR only supports single region detection, and only the first region will be used even if you set multiple motion detection regions in the camera.
1 2 3 4
I/O Input
Motion Detection
Custom Event

Use the checkbox to enable event trigger on the desired channels.

**Once motion detection is enabled in this page, please configure the motion area and enable motion detection in the corresponding channels (cameras) from* camera's *own web UI*. The NVR only detects the first motion area set in the camera. The NVR recognizes the first motion area by its ID number set in the camera.


When NVR is triggered by
Disk fail
Recycled
When NVR start up
When NVR system configuration changed
When channel's configuration changed
When camera connection status changed
When remaining HDD space is lower than
GB (min. 2GB when HDD recycle function is disabled)
When system temperature is too high

Define which system events should trigger the recorder to send out notifications.



Define how the notifications will be sent and where they will be sent to.

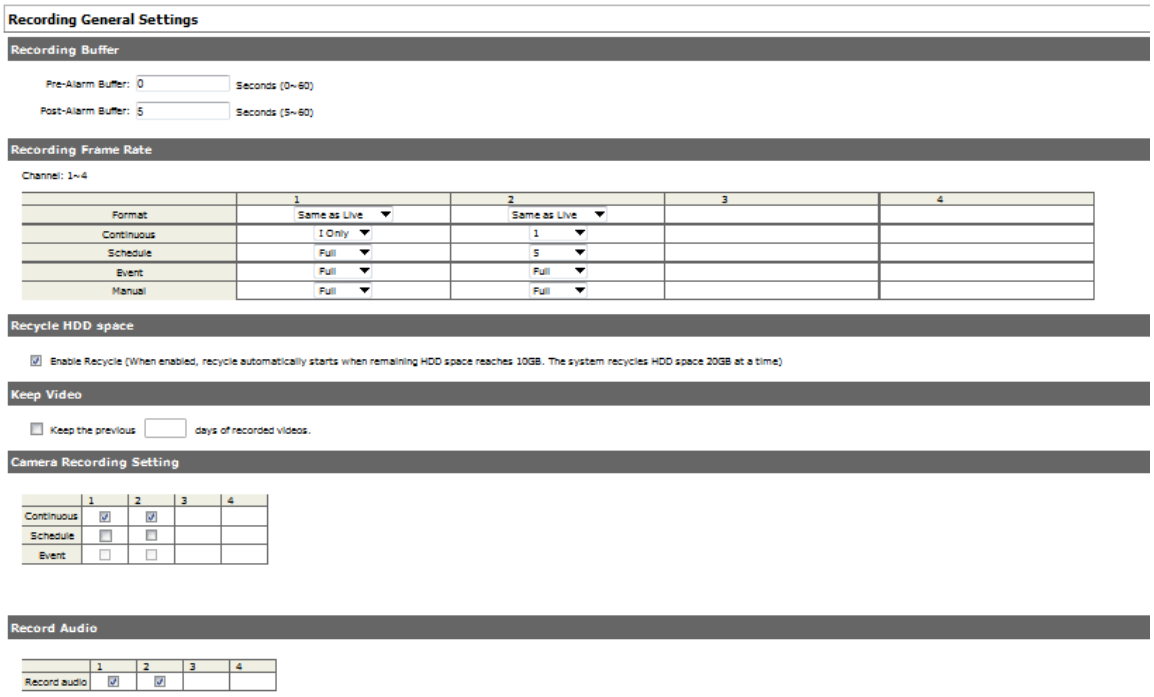
** Event trigger may not work for cameras that are placed outside of your local network or on the Internet until the "UPnP Port Forwarding" is enabled in both the NVR and the router.*

NVR Setup -- Recording Configurations (Web Interface)

General Settings

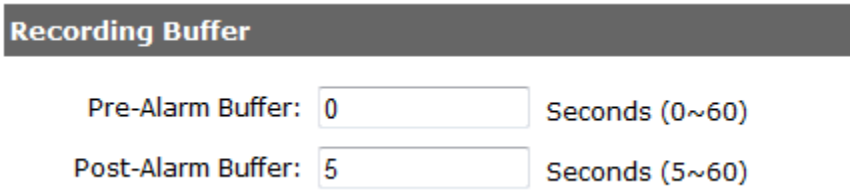
The "recording configurations" gives users the overall control of how and when a recording is performed and the quality of different types of recordings performed on each channels. It can help the recorder to operate with sufficient system resource by performing recording only when it's necessary with adjustable recording frame rate.

General Settings


Recording General Settings
Recording Buffer
Pre-Alarm Buffer: 0 Seconds (0~60)
Post-Alarm Buffer: 5 Seconds (5~60)
Recording Frame Rate
Channel: 1~4
1 2 3 4
Format Same as Live Same as Live
Continuous I Only 1
Schedule Full 5
Event Full Full
Manual Full Full
Recycle HDD space
Enable Recycle (When enabled, recycle automatically starts when remaining HDD space reaches 10GB. The system recycles HDD space 20GB at a time)
Keep Video
Keep the previous days of recorded videos.
Camera Recording Setting
1 2 3 4
Continuous
Schedule
Event
Record Audio
1 2 3 4
Record audio

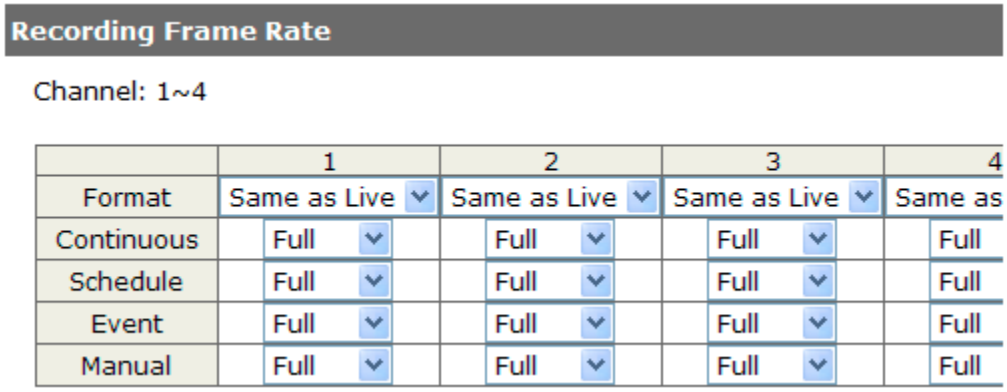
You can define the following in "General Settings":

- Pre-Alarm/Post-Alarm recording length
- Recording frame rate
- Turn on/off HDD recycle function
- Define to always keep a number of days of previously recorded data
- Enable/disable different recording types on different cameras
- Enable/disable audio recording

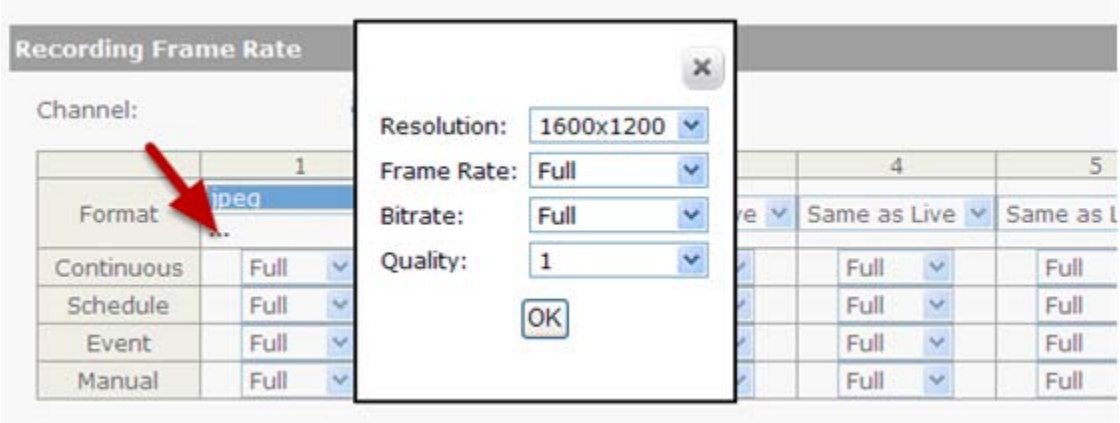


The "recording buffer" allows user to define "pre-alarm" and "post-alarm" time for event recordings. The "pre-alarm" time sets the NVR to record in advance when an event is triggered. The "post-alarm" time sets the NVR to continue recording for a period of time after an event trigger is finished.

** The "Pre-alarm" function only works when the "Continuous" recording is also activated.*



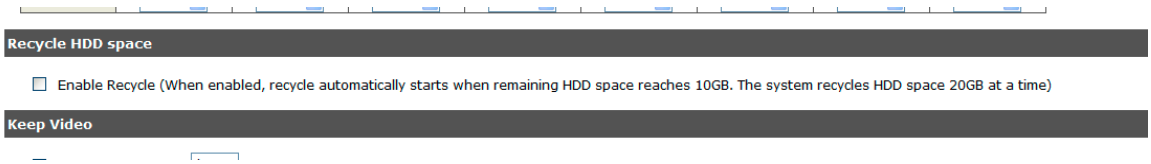
Recording frame rate allows you to set different frame rate for different types of recording instead of recording at one frame rate only. Use the drop-down menu and select one of the pre-defined frame rates for a particular recording type



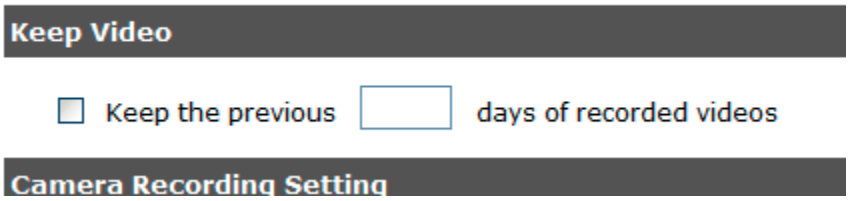
You are able to use the same video format for recordings or you can choose other formats for different recording purposes if it's a multi-stream capable camera.

If you chose to use a different video format for recording, you are able to adjust its detail settings by clicking on the **"..."**.

A new dialog will pop out for further detail configurations. Noticing the "Frame rate" in this dialog represents the live fps that will be set back to the camera for this particular video format. You can configure the recording fps for different types of recordings individually.

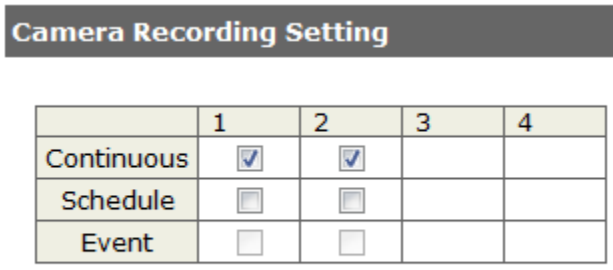

Recycle HDD space
Enable Recycle (When enabled, recycle automatically starts when remaining HDD space reaches 10GB. The system recycles HDD space 20GB at a time)
Keep Video

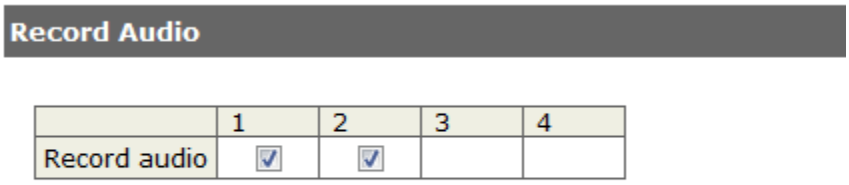
The HDD space recycle function is turned on by default. You can alternatively turn it off and set a system event in "NVR Setup">>"Event Configurations">>"Event Trigger">>"Event Handling Settings">>"When NVR is triggered by", and set a desired disk remaining space for event trigger condition. You'd have to take action manually after you get the system event notification, such as replacing disk, turn on HDD recycle function, or backup recording data.



Users can also set to keep a previous number of days of recording data by enabling the option below. This is quite often used in application such as banking which certain countries requires to always keep a minimum previous number of days of recording data.

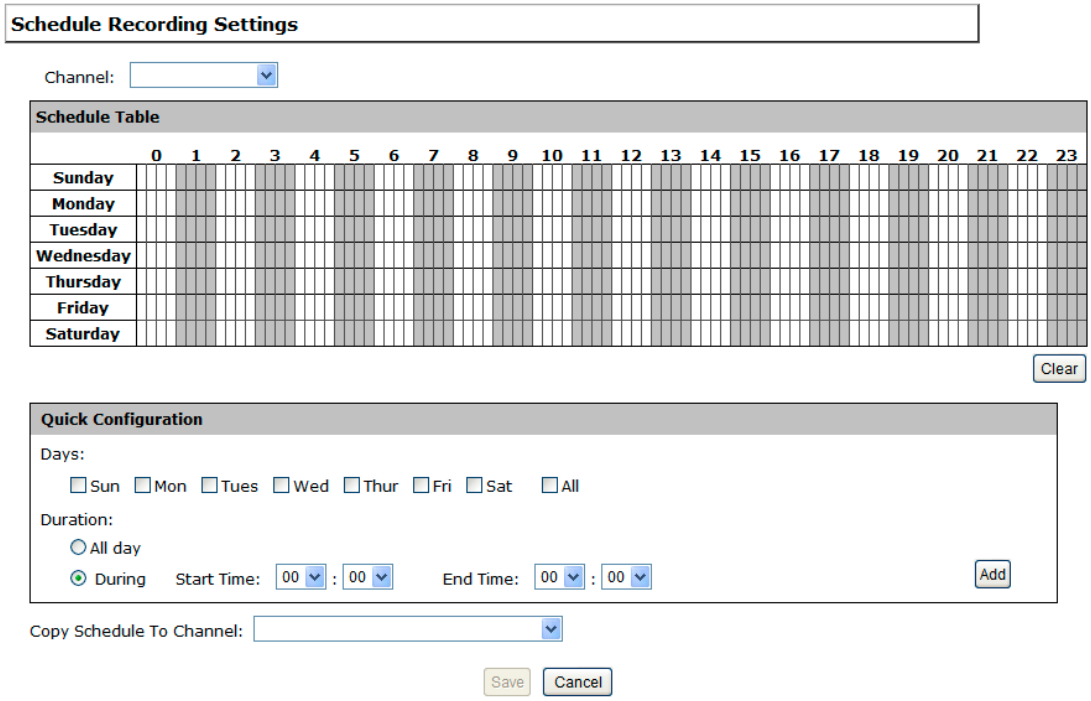
** If this option is enabled, once the hard drive is full, the recycle function will then start but it will ensure that the number of days of recording data defined here will stay in hard drive instead of wiping out 20GB of data at a time.*
** If the hard drive is not full, the NVR re-calculates twice a day (each at 2:30am and 2:30pm) to keep the defined number of days of recording data from these two particular points of time backward.*





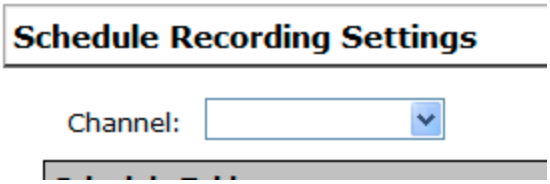
The section at the bottom of the page allows you to disable audio recording (record video only) of particular channels.

Schedule Recording

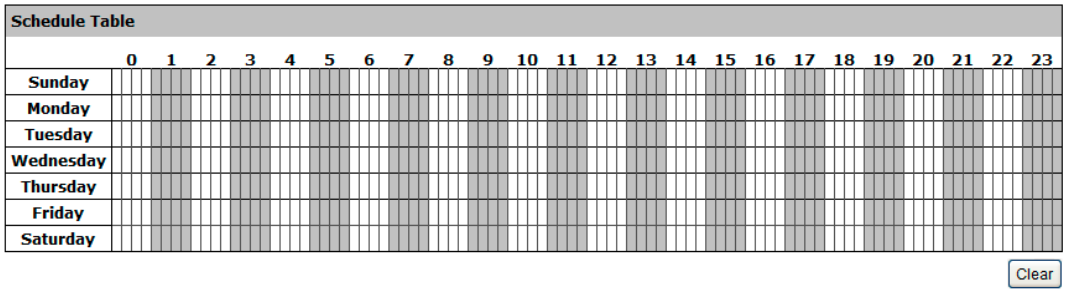


You can define the time range of the schedule recording for all channels in this page.

To configure a schedule recording



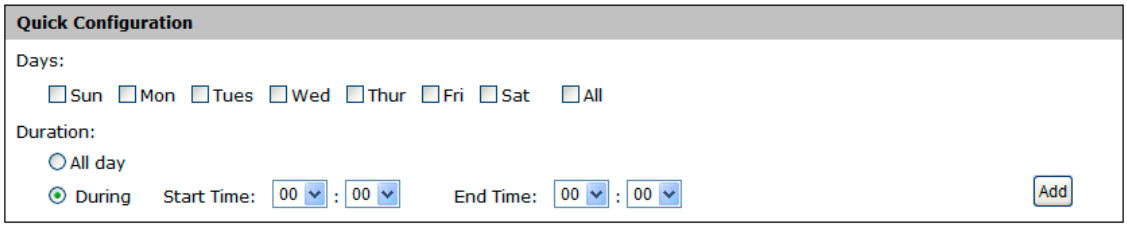
Use the "Channel" drop-down menu and select a camera first.



You can use the schedule table to set the time range. Click the cell boxes then move horizontally lets you set what hours to perform

recording during a day. Click and move vertically lets you set what days to perform recording at a specific time.

** Each cell box represents 15 minutes of time. Click one or more boxes to omit consecutive recording.*



You can also use the "Quick Configuration" to define recording time range instead of clicking cell boxes one by one on the time table. Simply check what days you would like to perform recording and specify the recording duration by either choosing "All Day" or enter a start and end time for specific recording duration.

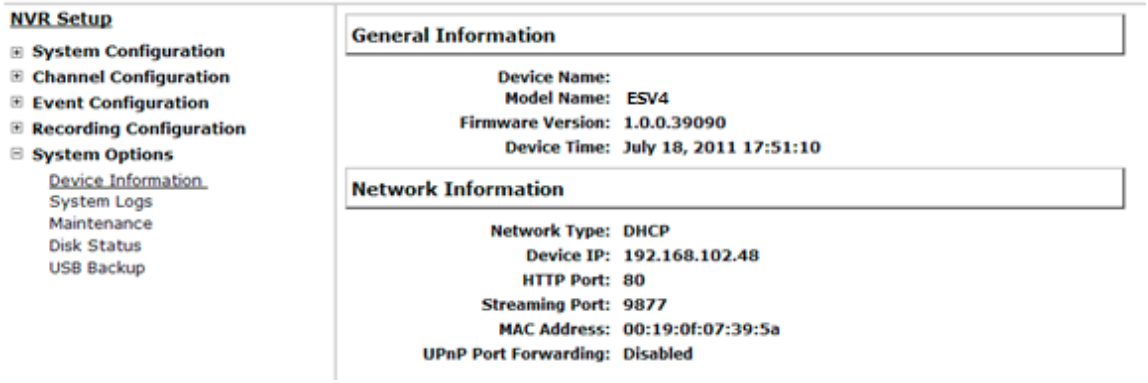
Select the "Copy to" option if you would like to set the same recording schedule to another camera.

NVR Setup -- System Options (Web Interface)

Device Information

System Options gives users a glance of the overall system status and allows users to perform maintenance tasks such as upgrading firmware, restore/backup device settings or reboot device ....etc.

Device Information



The "Device Information" provides the general information of the device such as firmware version and system time. It also provides information of the current network settings and status.

Logs and Reports

System Logs

ID	Time	Type	Sub-type	CH	AP	IP	User
1	July 19, 2011 10:15:07	User	User login		Web		admin
2	July 19, 2011 09:47:20	User	User login		Web		admin
3	July 19, 2011 08:56:19	Recording	Stop recycling HDD space				
4	July 19, 2011 08:55:23	Recording	Start recycling HDD space				
5	July 18, 2011 20:21:40	User	User logout		TestClient	192.168.102.21	admin
6	July 18, 2011 20:20:38	User	User logout		TestClient	192.168.101.178	admin
7	July 18, 2011 19:54:46	User	User login		Web		admin
8	July 18, 2011 19:50:35	User	User login		Web		admin
9	July 18, 2011 19:45:14	Linux	Format hard disk				
10	July 18, 2011 19:44:55	Linux	Format hard disk				
11	July 18, 2011 19:44:33	Linux	Format hard disk				
12	July 18, 2011 19:44:15	Linux	Format hard disk				
13	July 18, 2011 19:43:59	Linux	Format hard disk				
14	July 18, 2011 19:43:38	Linux	Format hard disk				
15	July 18, 2011 19:41:06	Channel	Camera connected	31			
16	July 18, 2011 19:41:06	Channel	Camera connected	21			
17	July 18, 2011 19:41:05	Channel	Camera connected	18			
18	July 18, 2011 19:41:05	Channel	Camera connected	19			
19	July 18, 2011 19:41:05	Channel	Camera connected	17			
20	July 18, 2011 19:41:05	Channel	Camera connected	16			
21	July 18, 2011 19:41:05	Channel	Camera connected	15			
22	July 18, 2011 19:41:05	Channel	Camera connected	13			
23	July 18, 2011 19:41:05	Channel	Camera connected	14			
24	July 18, 2011 19:41:05	Channel	Camera connected	12			

"Logs and Reports" keeps a record of what's been happening to the device and provides basic information for troubleshooting.

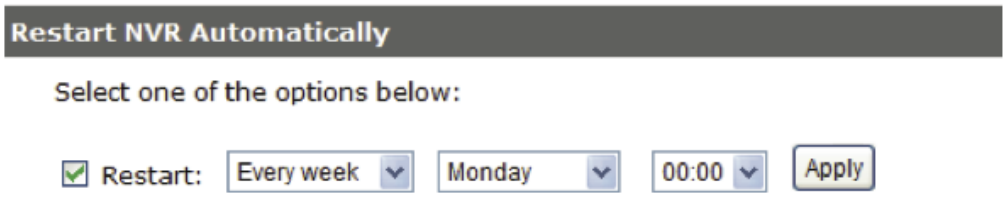
Maintenance

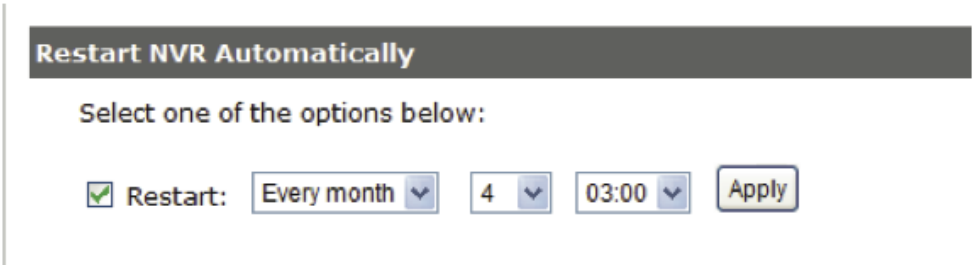
NVR Setup
System Configuration
Channel Configuration
Event Configuration
Recording Configuration
System Options
Device Information
System Logs
Maintenance
DO Status
Disk Status
USB Backup
UPS Configuration
Maintenance
Restart NVR
Click "Restart" button to restart NVR
Restart
Restart NVR Automatically
Select one of the options below:
Restart: Every week Every month Sunday 00:00 Apply
Restart Camera
Select a camera below to perform a restart
CH1: 88-HCM715 Restart
Upgrade NVR Firmware
Locate the new firmware and perform the upgrade (Current Firmware Version: 1.6.0A.30028874)
Specify the firmware file: Browse and click Upgrade
*** Note ***: Please DO NOT power off the system during the firmware upgrade process. You will be notified once the upgrade process is complete
Backup NVR's Setting
Backup the configuration to a local hard disk
Backup
Restore NVR's Setting
Restore configuration from a previously saved configuration file
Specify the configuration file: Browse and click Restore
*** Note ***: Please DO NOT power off the system during the restore process. You will be notified once the process completed.
Reset NVR to Factory Default
This will restore all configurations to their factory default values
Restore Factory Default When the DHCP server function is disabled, the default IP of the system is:192.168.101.50
*** Note ***: Please DO NOT power off the system during the reset process. You will be notified once the process is complete.

"Maintenance" provides functions for users to:

- Reboot the NVR when necessary
- Reboot cameras directly from the NVR
- Perform Firmware Upgrade
- Backup the NVR's settings to a local hard drive
- Restore the NVR's settings from a previously saved configuration file
- Reset the NVR's settings to their factory default values

Reboot the NVR at a specific time automatically



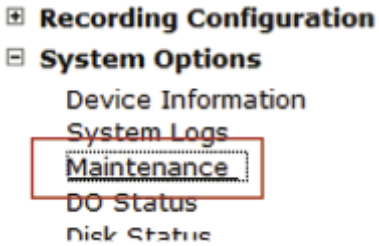


You can configure the NVR to restart automatically by using the options given in the web UI. You can set the NVR to restart at a particular hour of a specific day during a week or a month.

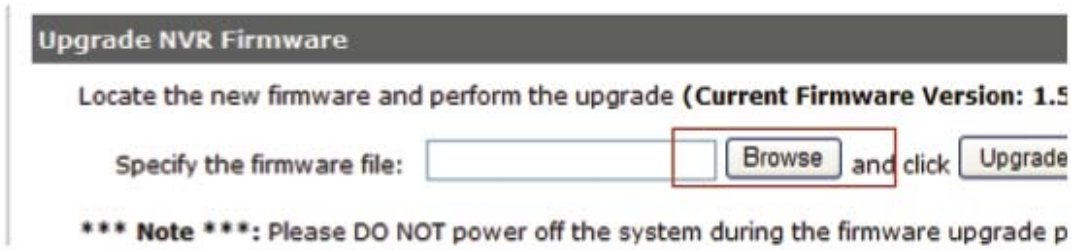
Firmware Upgrade

The firmware can be upgraded through web UI or USB. Before upgrading firmware, please backup configuration in advance.

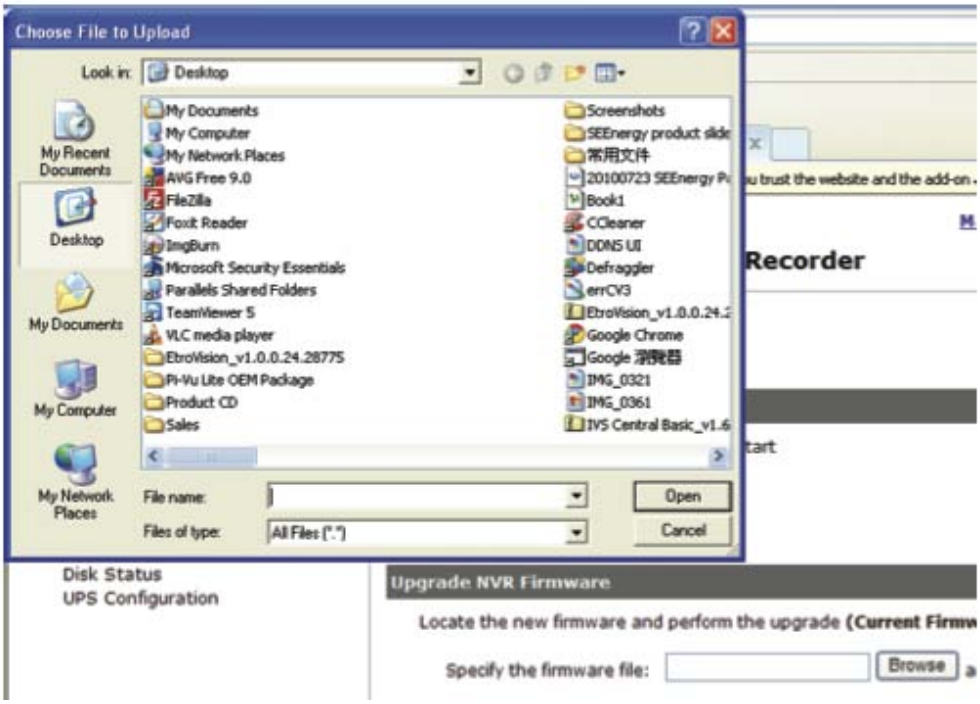
Through the web interface



Login into NVR's web management UI. Go to "Setup" page and go to "System Options"->"Maintenance"

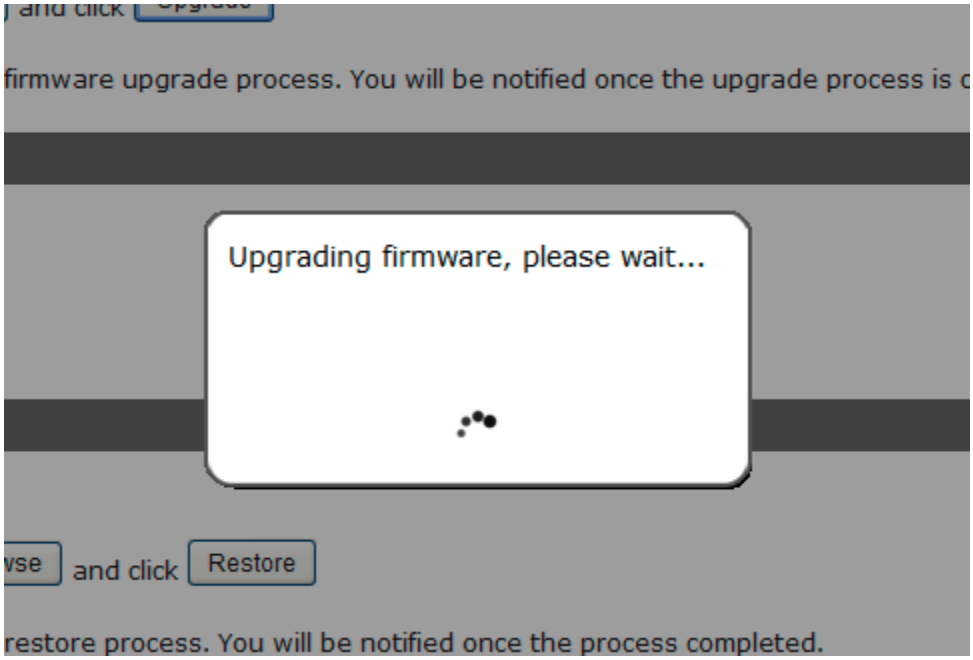

Upgrade NVR Firmware
Locate the new firmware and perform the upgrade (Current Firmware Version: 1.5
Specify the firmware file:
Browse
and click
Upgrade
*** Note ***: Please DO NOT power off the system during the firmware upgrade p

On "Upgrade NVR's Firmware" section, click "Browse" and select new firmware file



A new dialog should display and let you choose the location of the firmware file.

When done, click "Upgrade".

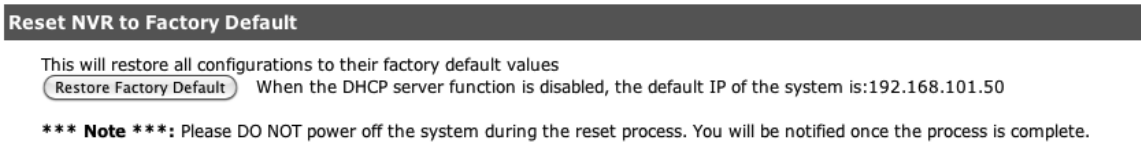

firmware upgrade process. You will be notified once the upgrade process is
Upgrading firmware, please wait...
and click
Restore
restore process. You will be notified once the process completed.

Follow the on screen instruction and wait for the process to finish (After upgrade, the system will reboot automatically)

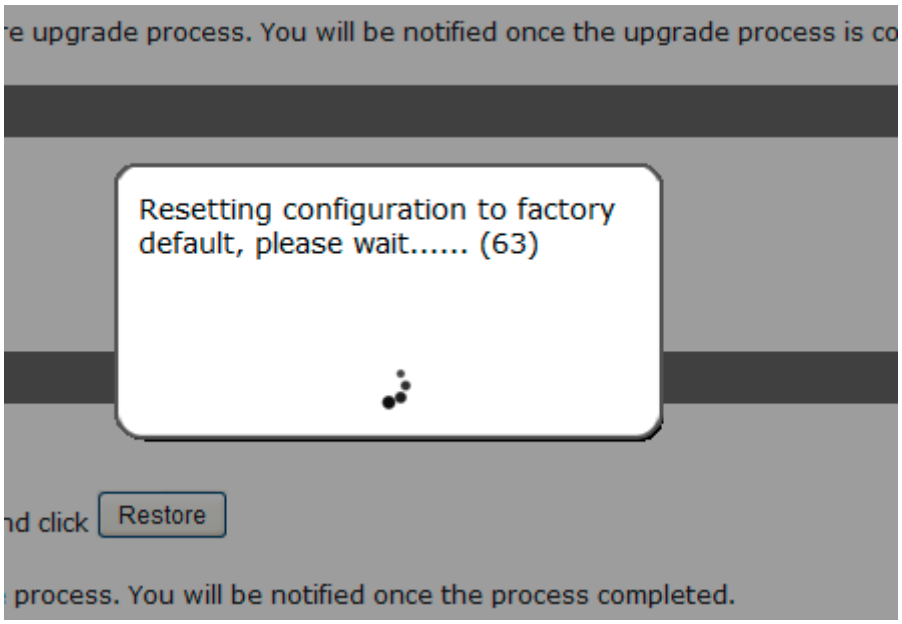
Upgrade through USB thumb drive

1. Prepare a USB flash disk and format with FAT or FAT32 format
2. Place the firmware in the USB flash disk and make sure it's placed at the top-level directory. Please do not place the file in a folder. **(Make sure to change the firmware file name to "firmware" and leave its file extension ".bin" as is before placing the file to the USB disk)**
3. Plug USB flash disk into USB port on the NVR
4. The System LED on the NVR will start to flash in amber. This indicates firmware upgrade is in process
5. *** Warning *** Please wait until upgrade process finished, interrupt the upgrade process may cause system not work anymore
6. Wait until System LED remains solid in amber. This indicates firmware upgrade is finished
7. Power off the NVR and remove the USB disk the power the unit back on again
8. Restore configuration file back if needed

Reset the NVR to Factory Default


Reset NVR to Factory Default
This will restore all configurations to their factory default values
Restore Factory Default
When the DHCP server function is disabled, the default IP of the system is:192.168.101.50
*** Note ***: Please DO NOT power off the system during the reset process. You will be notified once the process is complete.

To reset the recorder back to its factory default, click "Restore Factory Default" button and begin the process.

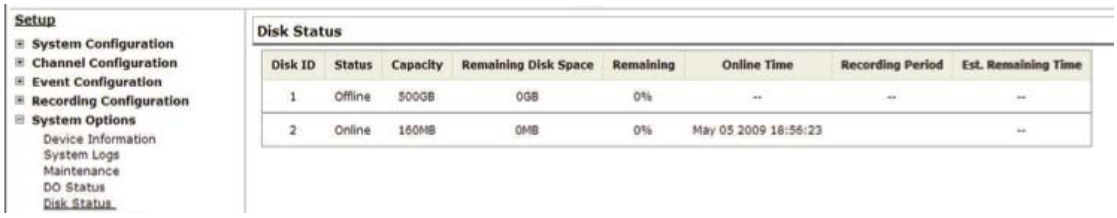

e upgrade process. You will be notified once the upgrade process is co
Resetting configuration to factory default, please wait..... (63)
nd click
Restore
process. You will be notified once the process completed.

The process should be displayed and you should be prompted back to the "Live View" page after it is complete.

To perform **hardware reset to default**, follow the instructions below:

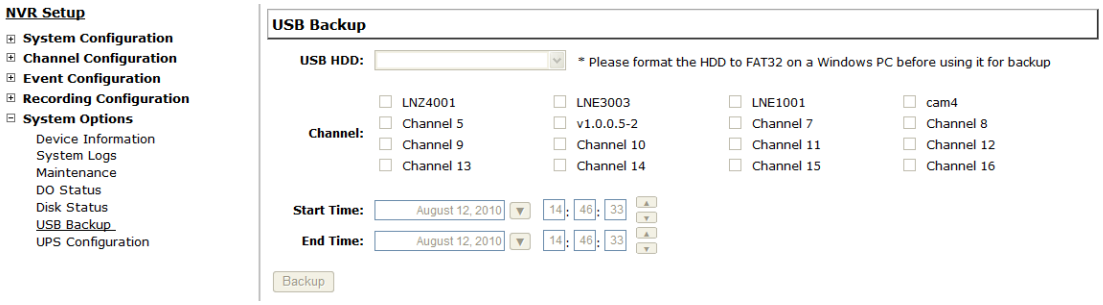
- **Power-off the device**
- **Press and Hold reset button at the back of the device.**
- **Power-on the device**
- **Wait till all the LED's are solid green.**
- **Release the reset button**

Disk Status

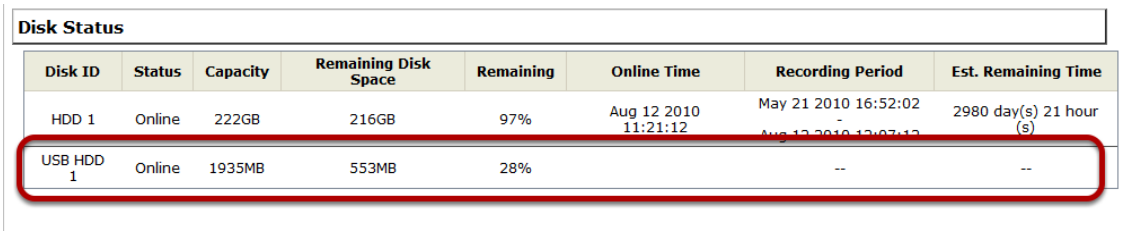


"Disk Status" gives you more detailed information of the hard drive that is currently installed in the NVR.

USB Backup

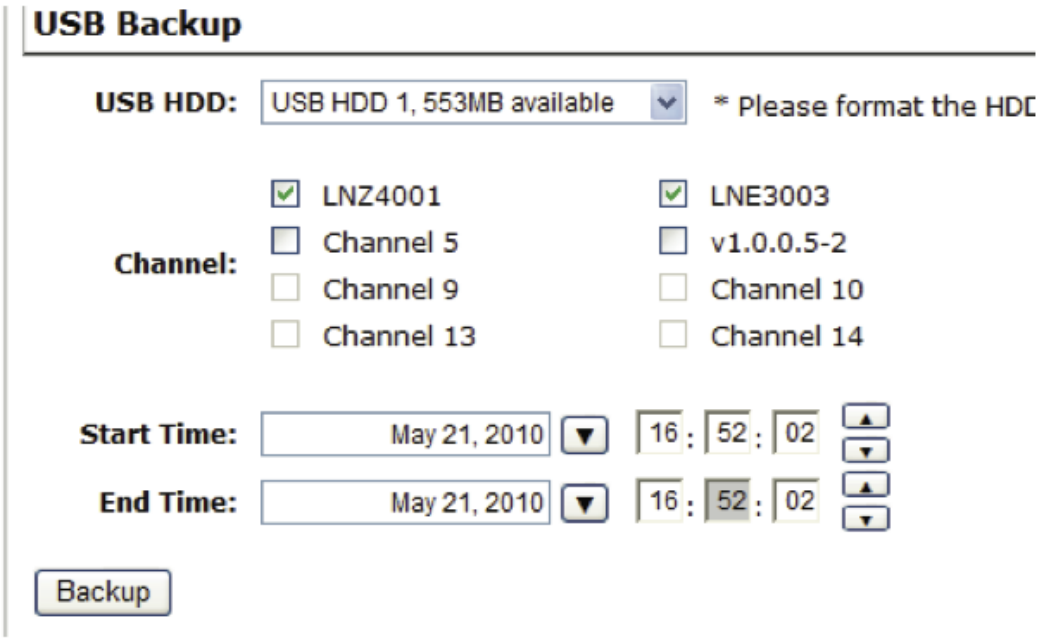


It's a function that allows users to backup the recording data in its database file format (not AVI) to the externally connected USB hard disk.

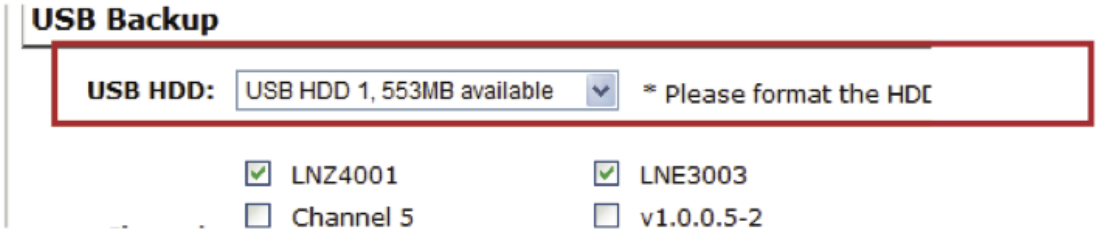


You can check the "Disk Status" page under "System Options" to see if the USB disk has been detected by the NVR. If it's available, it will also be in the USB HDD drop-down menu in the USB backup page.

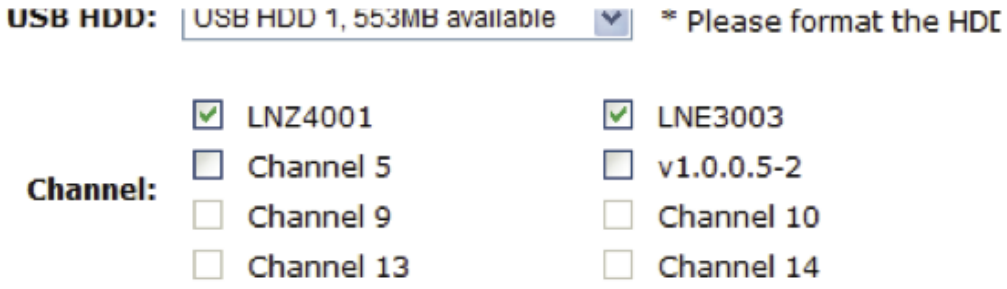
* It needs a USB disk containing free space larger than 100MB.



Once it's detected, go back to the "USB Backup" page and it should be available for further configuration



The USB hard disk(s) will be listed in the drop-down menu displaying the remaining disk space. Make your selection from the drop-down menu if you have more than one disks connected to the NVR.



Next, select channels, which you would like to backup the recording data from. Maximum 4 channels can be selected at once

Configure the start and end time of the recording data you would like to backup and click the "Backup" button to begin.

Things to pay attention to the USB Backup function

Limitation:

- It does not support USB Hub extend the number of HDD connected to the NVR

- Only one backup process can be performed at a time
- Maximum 4 channels can be selected for backup
- Only FAT32 USB hard disk is supported for backup
- The USB hard disk needs to have more than 100MB remaining space
- If multiple partitions are presented in one disk, only the first partition will be detected and used for backup

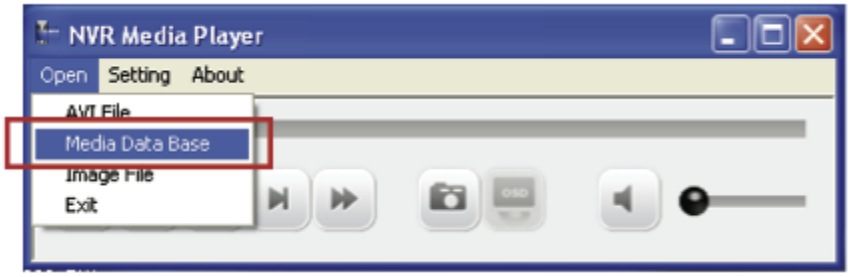
Process:

- Progress will be displayed on the UI
- If the backup process gets interrupted, which the process stops at a point of time that is before the "END Time" user defined, such time will be displayed on the UI
- A folder will be automatically created in the USB hard disk with a name format like 0028687831_20100610151515_2010060511 0010_20100606110010 (MAC_backupbuttonclicktime_starttime_ endtime)

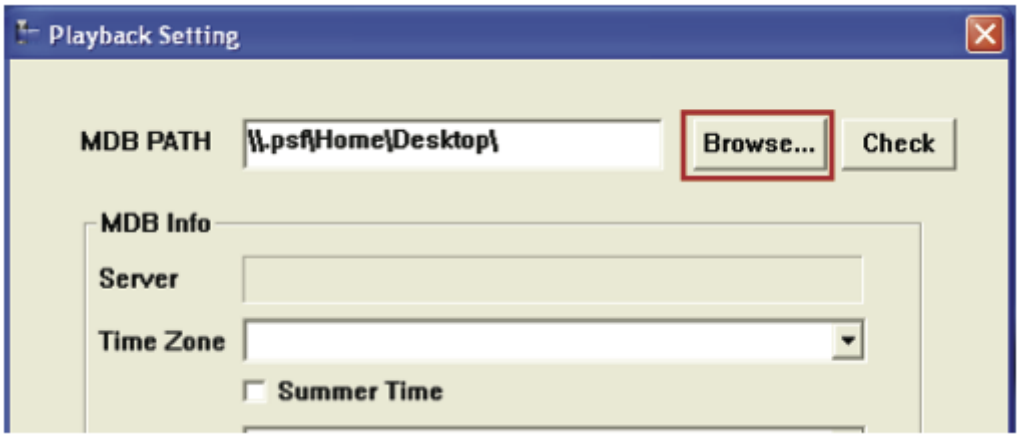
Note:

- Please plug in the USB HDD only after the NVR is fully started, or the HDDs will be incorrectly mounted.

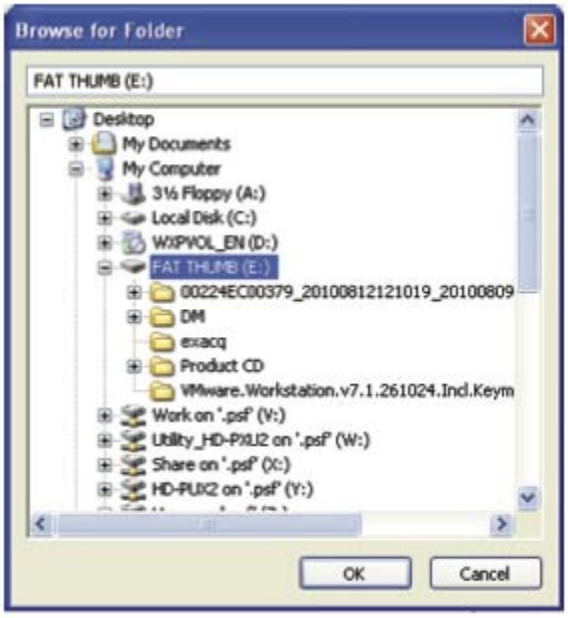
Play the backup file with the NVR Media Player



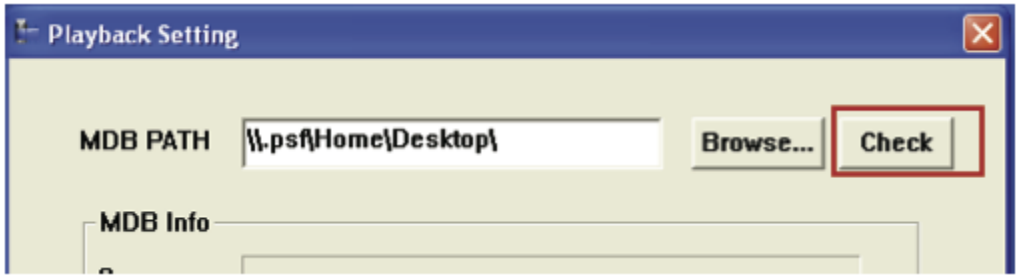
The backup files can be played with the NVR media player. To do, open the player and select "Open" >> "Media Database"



Click "Browse..." to select the file from the USB disk.



A new dialog should be prompted for you to select the file location.



When done, click "Check" to validate the file.

Once the file has been successfully verified, you should be prompted with the message shown below.

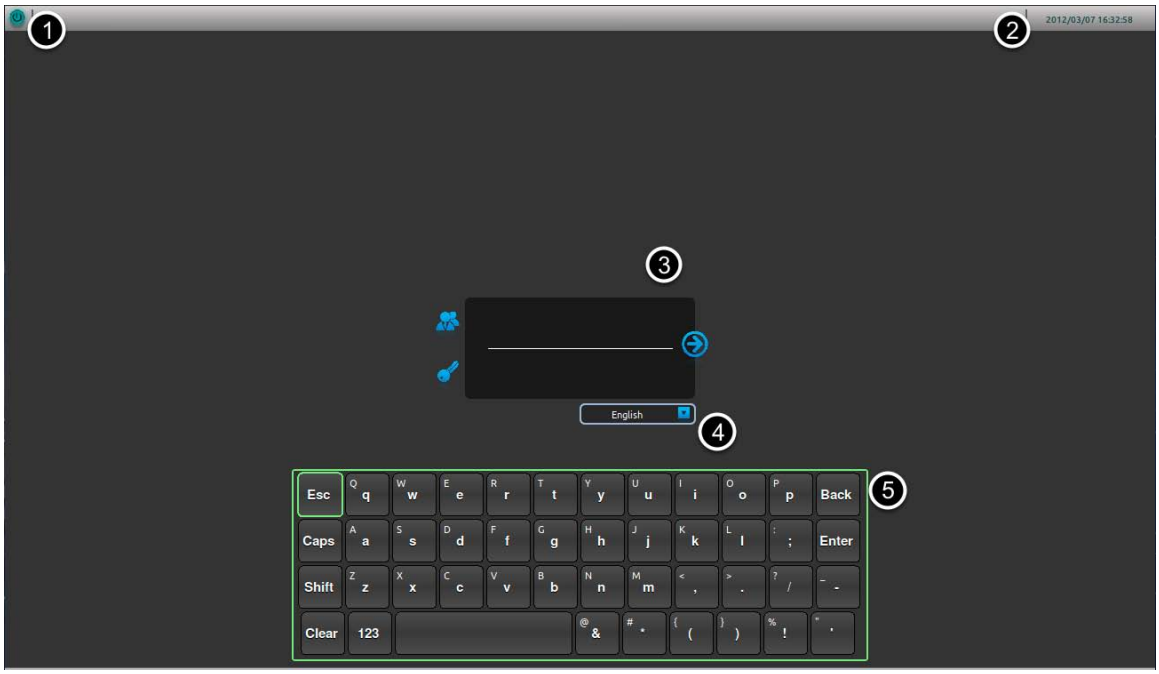
Select the time zone according to your current location.

Finally, click "OK" to begin playing. The player should now play the backed up file.

Local UI from HDMI Output

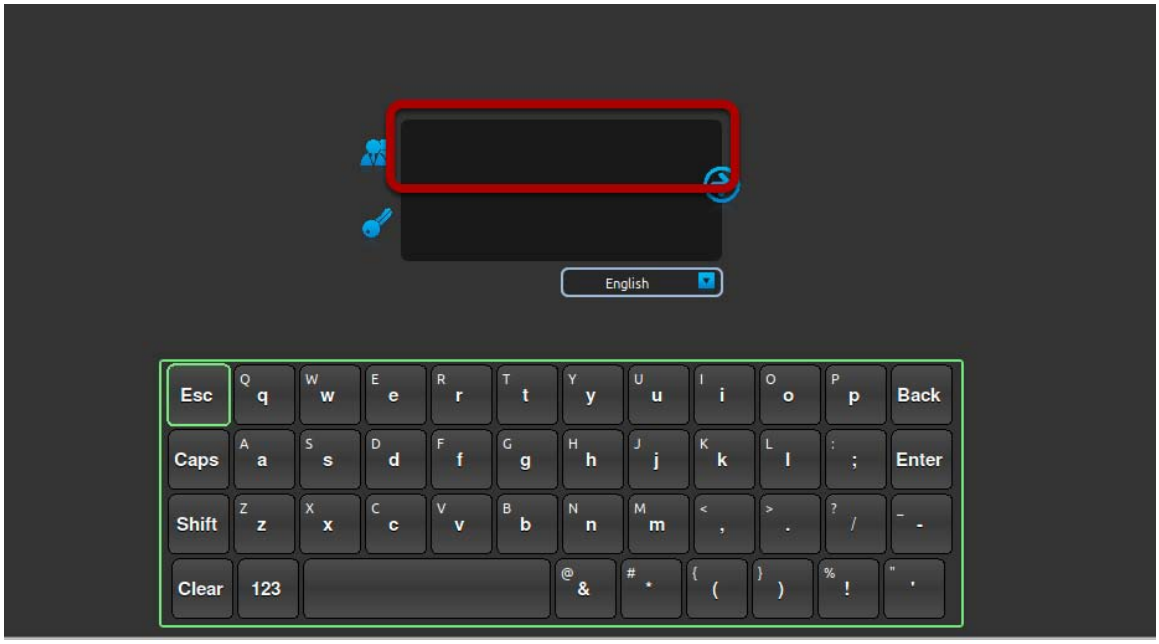
Live View

Login screen



You should be prompted with the login screen first when the NVR is fully started.

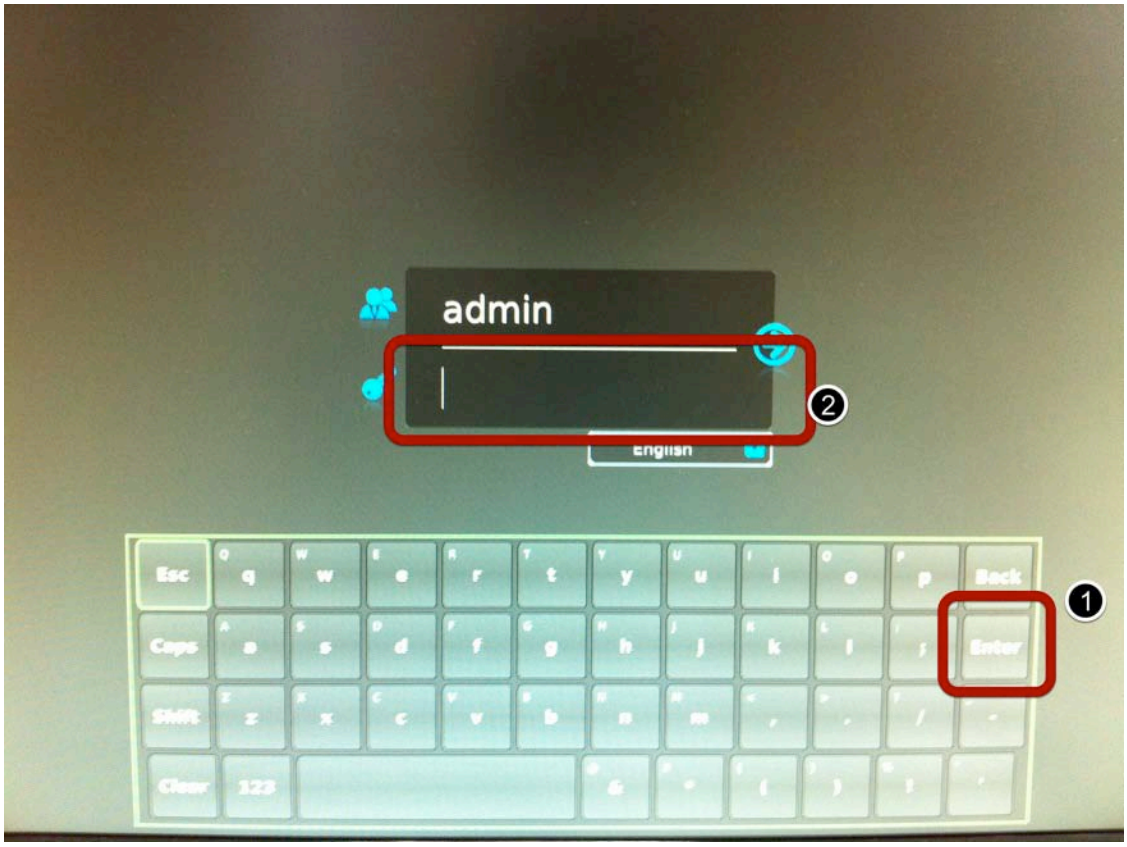
1. Power button
2. System Time
3. Username/Password
4. Display language selection
5. Virtual keyboard



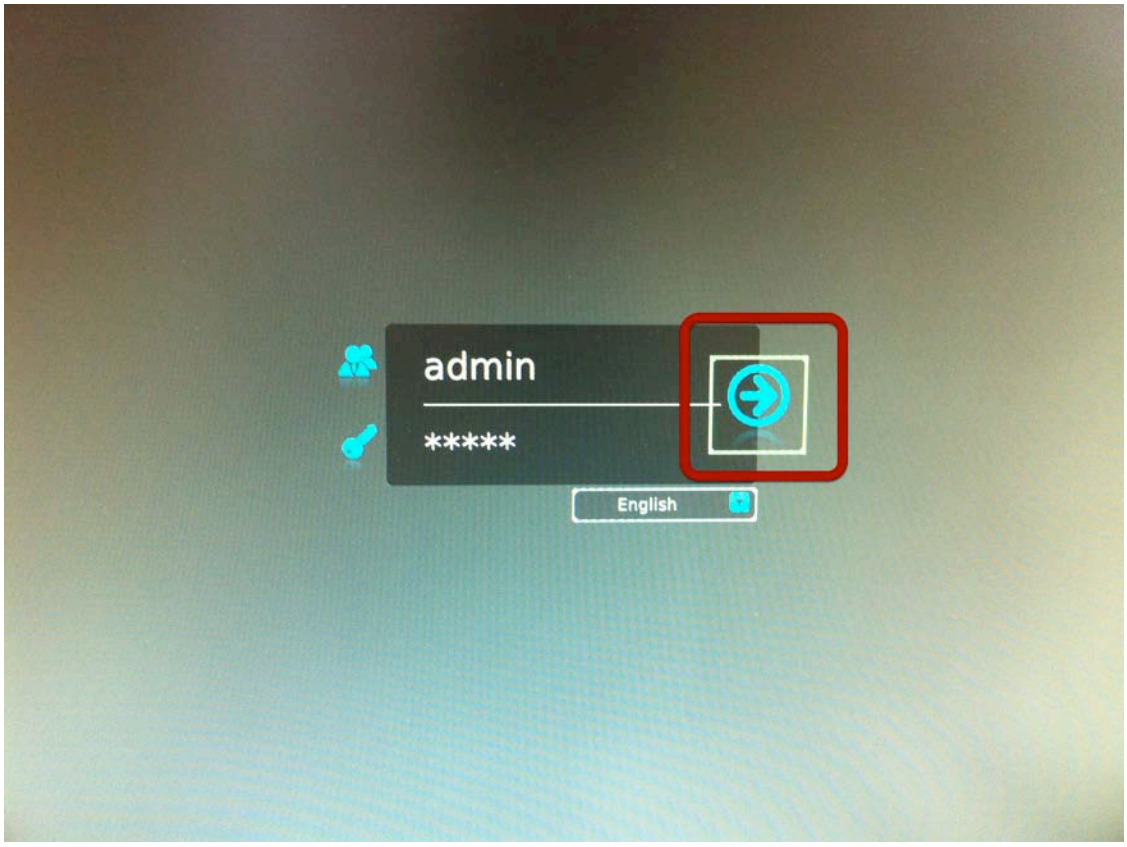
By default, the focus should be on the username field.

Remote control

Simply use the directional buttons on the remote to move between the keys on the virtual keyboard. If you have a USB mouse plugged into the NVR, a mouse cursor will appear on the screen and you can use the mouse to select keys on the virtual keyboard as well.
Press the "OK" button on the remote to make the selection.



Enter the default username "admin" by using the virtual keyboard. When done, select the "Enter" button on the virtual keyboard and the focus should be moved to the password field.



After the default password "admin" is entered as well, select the "Enter" button on the virtual keyboard again and the focus should be moved to the "Log in" icon. Press the "OK" button on the remote to log in.

Live View

The Local UI basically provides the view functions of both live video and playback video. The Local UI provides viewing video of 1 channel at a time, both live and playback.

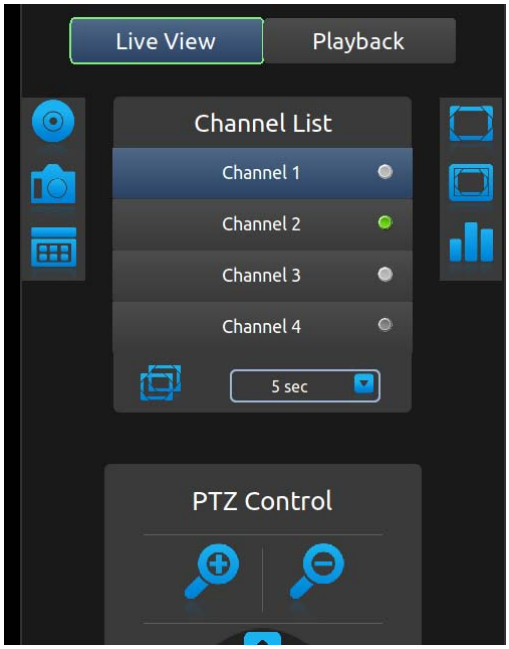
1. Top bar (the power, logged in user, system time and dashboard are placed in this area)
2. Video area
3. Functions for live video (From top down: start/stop manual recording, take snapshot, set location of the "Picture-in-picture" live event video coming from other channel)
4. Main menu
5. Channel list including status and start sequence viewing
6. From top down: full screen, display video in its original size, channel status
7. PTZ control (Pan, tilt, zoom, add preset point, preset point sequence viewing)

Side menu

By default, the selection focus should be on "Channel 1' on the Channel List. The side bar is basically divided into three sections. At any point, you can use the "Left" or "Right" button on the remote to quickly move to each section.

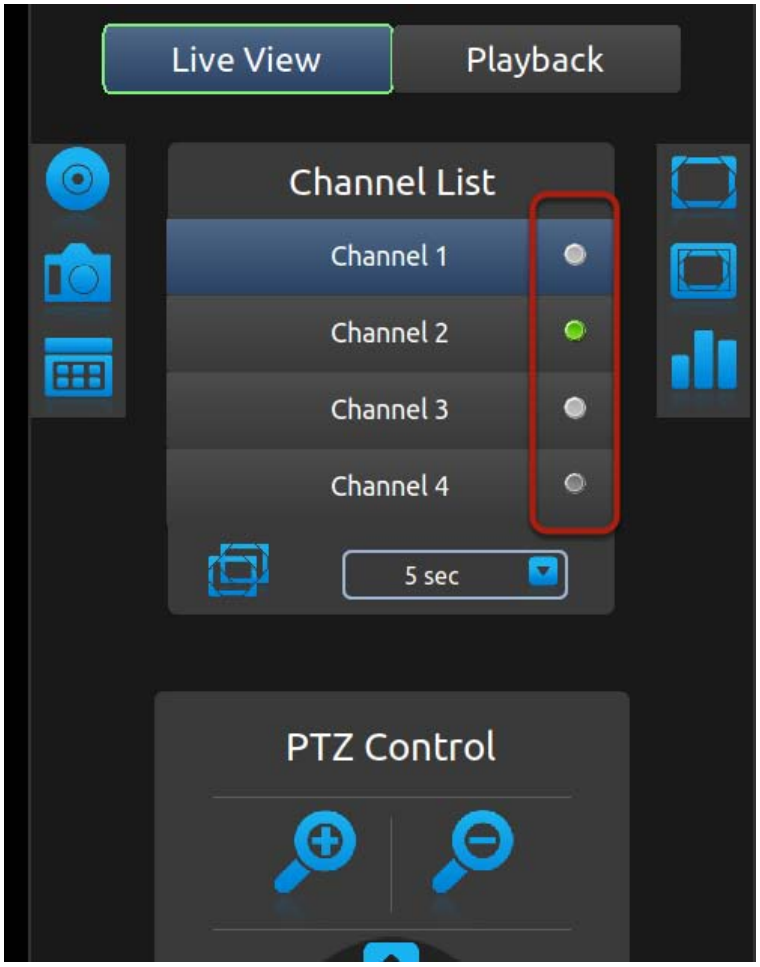
Live View
Playback
Channel List
Channel 1
Channel 2
Press "Left" button on the remote will quickly move the focus to the first icon in section "2"
PTZ Control

For example, if the selection focus is currently on "Channel 1" (or anywhere in the section "1"), press the "Left" button on the remote will move the focus to the "Manual recording" icon in section "2". Simply use the "Up" and "Down" buttons on the remote to move between icons in one particular section.



Use the "Up" and "Down" buttons on the remote to select a channel on the "Channel List" and press the "OK" button on the remote to make the selection. Alternatively, if a USB mouse is connected to the NVR, you can use the mouse and move the cursor to a channel and left-click to make the selection.

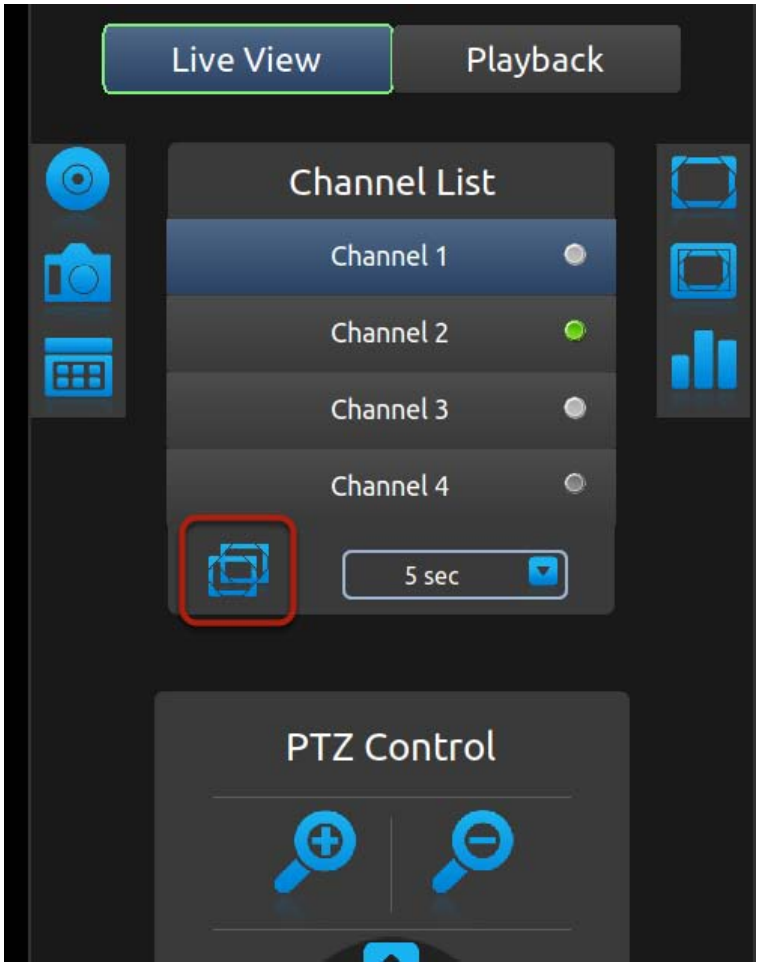
You can also use the channel selection buttons on the remote to quickly jump to a desired channel.



The small dots on the side of the "Channel List" provide the current status of each channel:

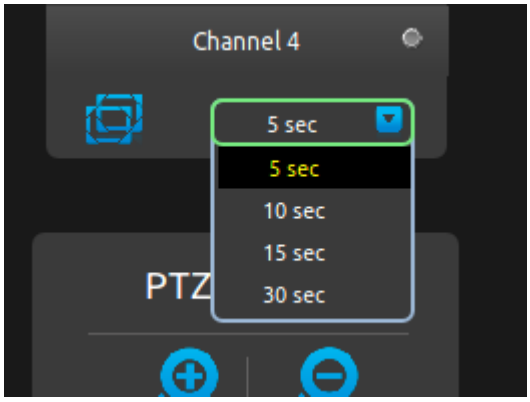
* White: Disconnected
* Blue: Connected
* Green: Recording
* Dark grey: Not configured

Sequence view



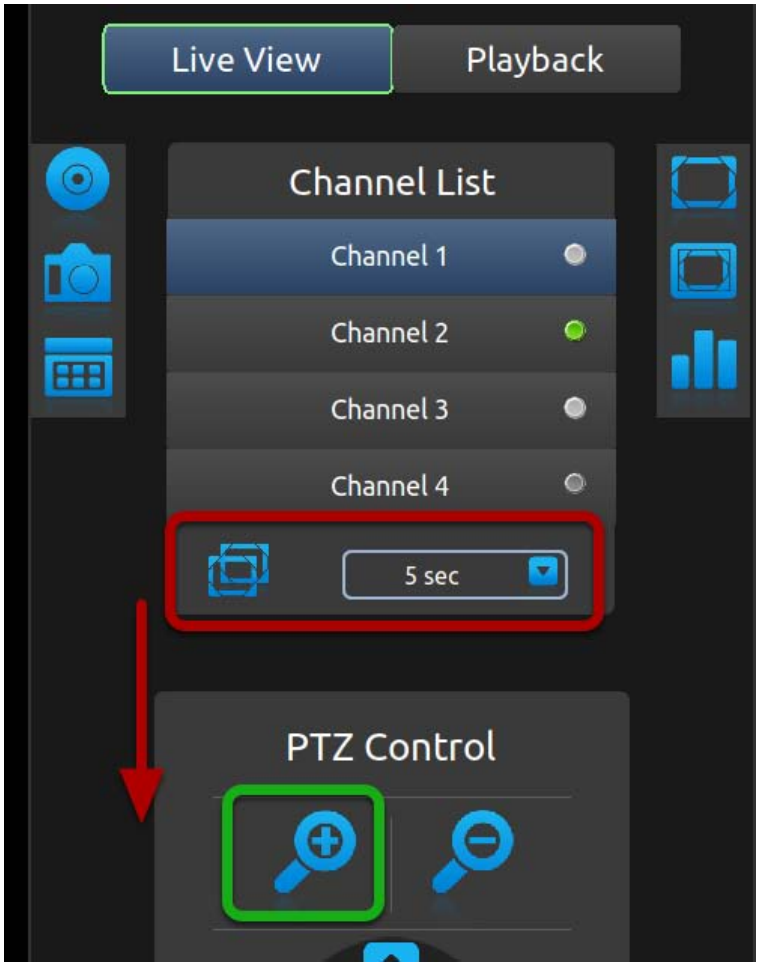
If the current selection focus is on "Channel 4", press the "Down" button on the remote should move the focus to the "Sequence viewing" icon. Press the "OK" button on the remote will start sequence viewing between all available channels with default 5-second interval. Press the "OK" button on the remote again will stop it.

When the focus is on the "Start/stop sequence view" icon, press the "Right" button on the remote will move the focus to the sequence interval drop-down menu.



Press the "OK" button on the remote should display all options in the drop-down menu. Use the "Up" and "Down" buttons on the remote to move between selections and press the "OK" button to select the new interval.

You can also quickly start/stop sequence viewing by using the "SEQ" button on the remote.

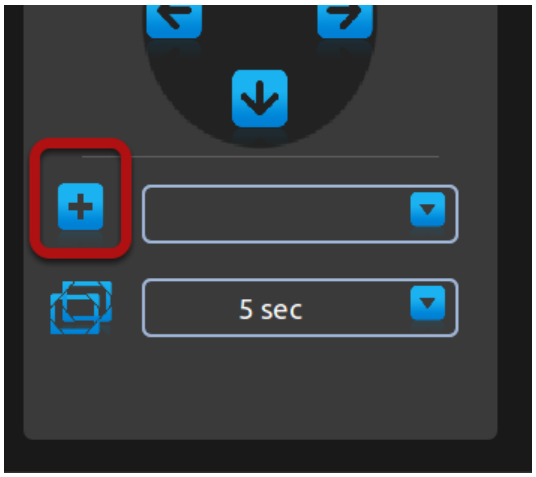


If the selection focus is on either the "Sequence view" or the "Sequence interval", press the "Down" button on the remote should move the focus to the "Zoom" icon in the PTZ control area.

PTZ Control

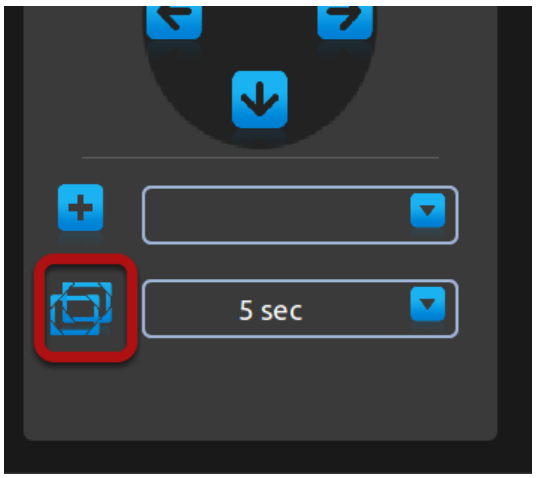
Once you are in the PTZ control area. Use the directional buttons on the remote to move between icons.

Add preset points

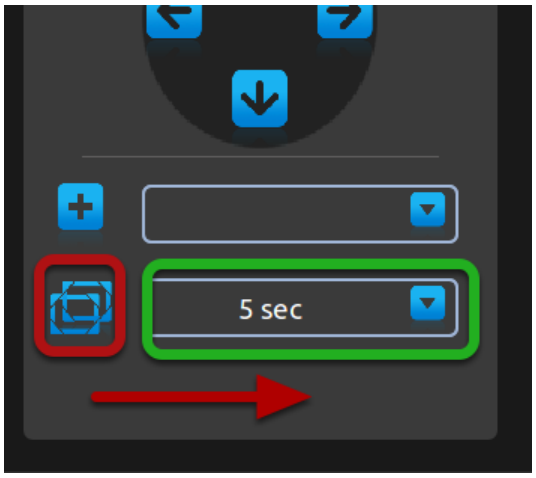


Move the selection focus to the "Add preset point" icon and press the "OK" button on the remote will add the current live video as a preset point.

Preset point sequence view



Once you have multiple preset points added, press the "Down" button on the remote to select the "Preset point sequence view" icon. Press "OK" button on the remote to start sequence view between previously added preset points. Press "OK" again to stop.

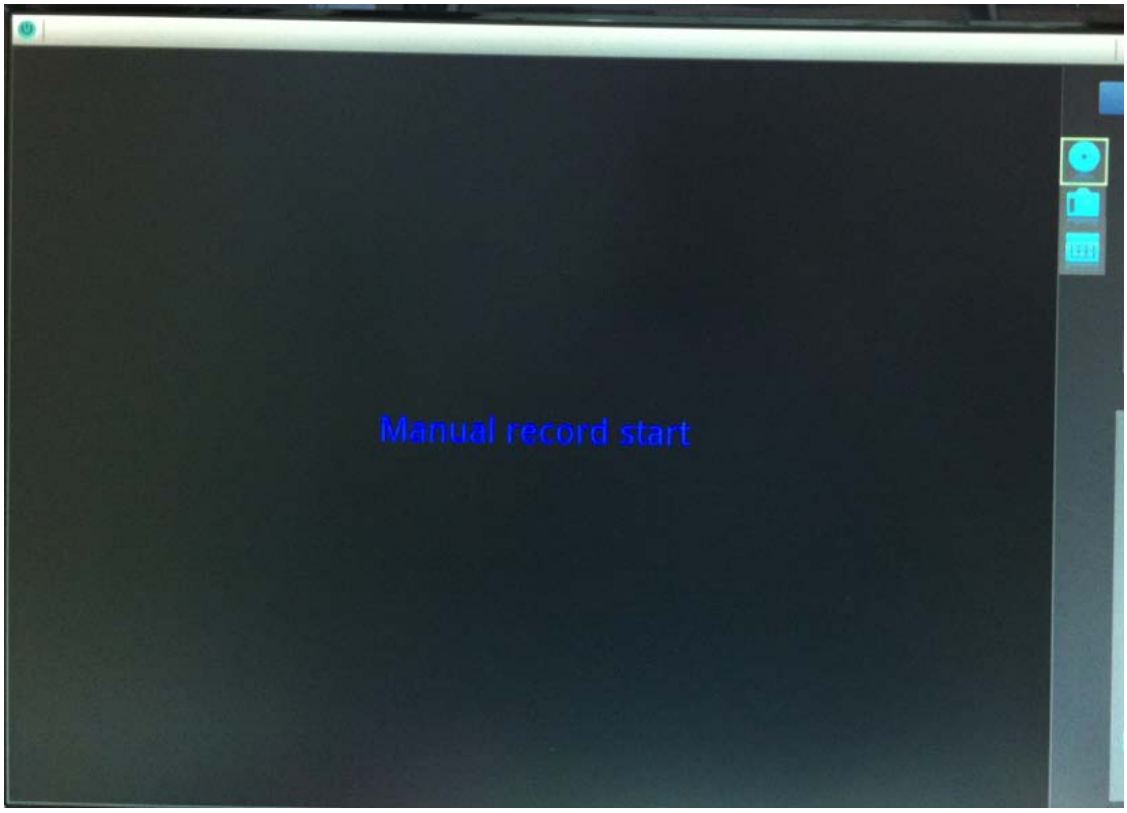


When the focus is on "Preset point sequence view" icon, press the "Right" button will move the focus to the preset point sequence view interval drop-down menu. Press the "OK" button on the remote will pull down the menu and use "Up" and "Down" buttons on the remote to move between selections. Press the "OK" button again to make the selection.

At any point in Live View, you can enter the PTZ mode by:
1. Pressing the "PTZ" button on the remote
2. Use the directional buttons to simulate pan, tilt, zoom actions as well as jumping through preset points.

Manual Recording

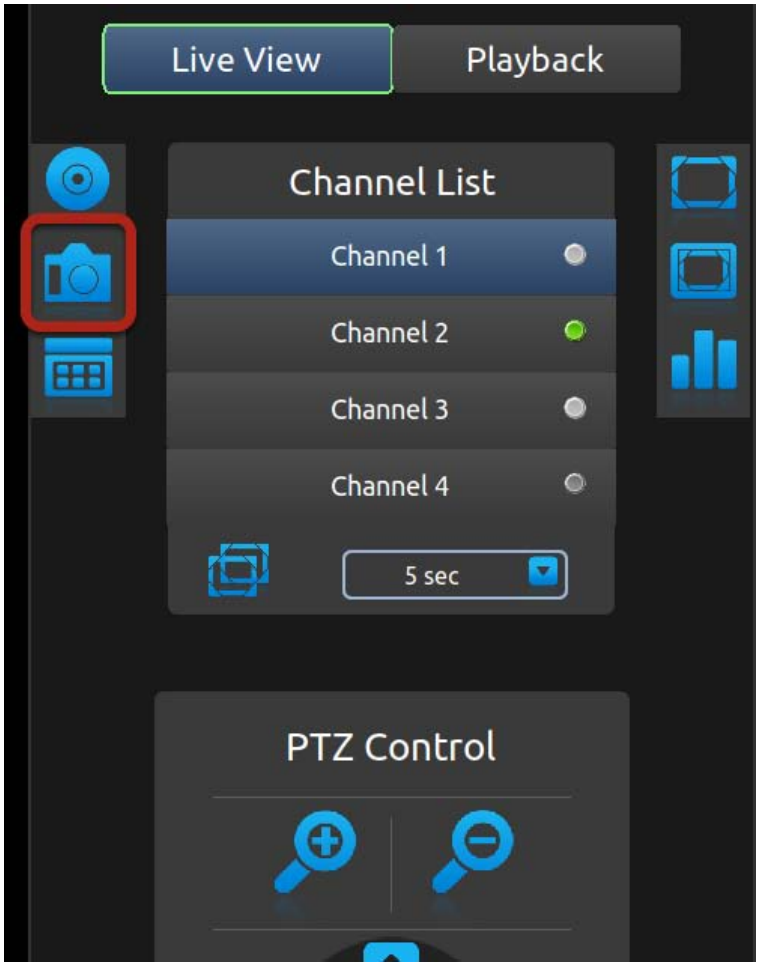
Recording can be manually started when viewing live video. If the selection focus is somewhere in the green highlighted area shown above, press the "Left" button on the remote will move the focus to the manual recording icon. Press the "OK" button on the remote to start recording right away.



You should see an on-screen text notification indicating the recording has been started.

Alternatively, you can press the "REC" button on the remote start recording of the current viewing channel right away. Press it again to stop.

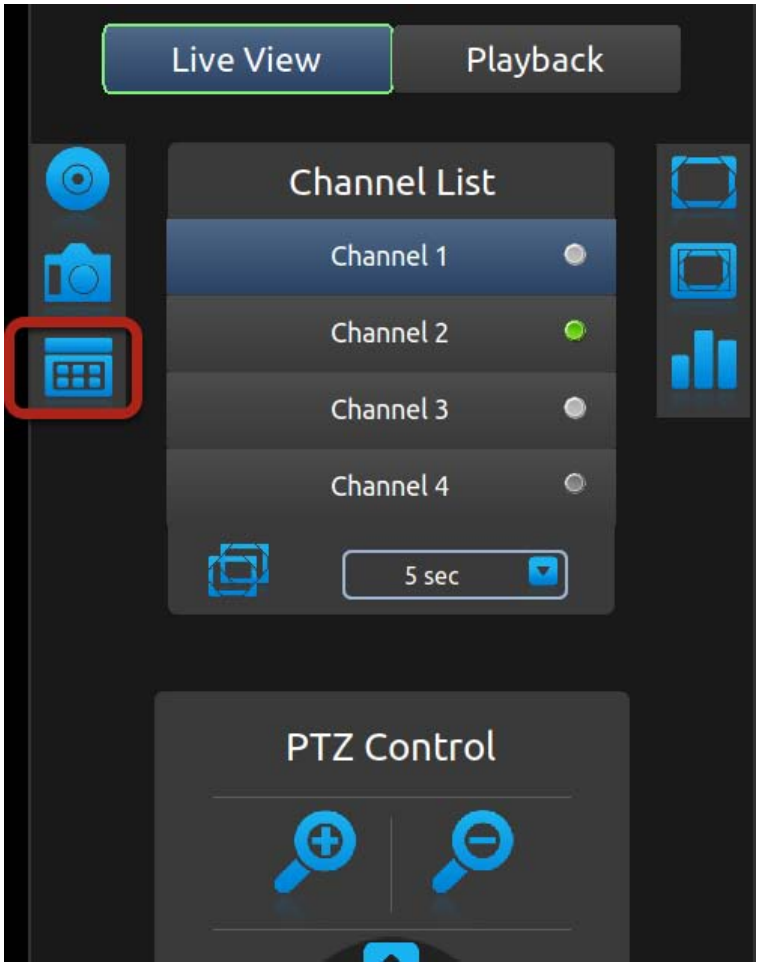
Take snapshot



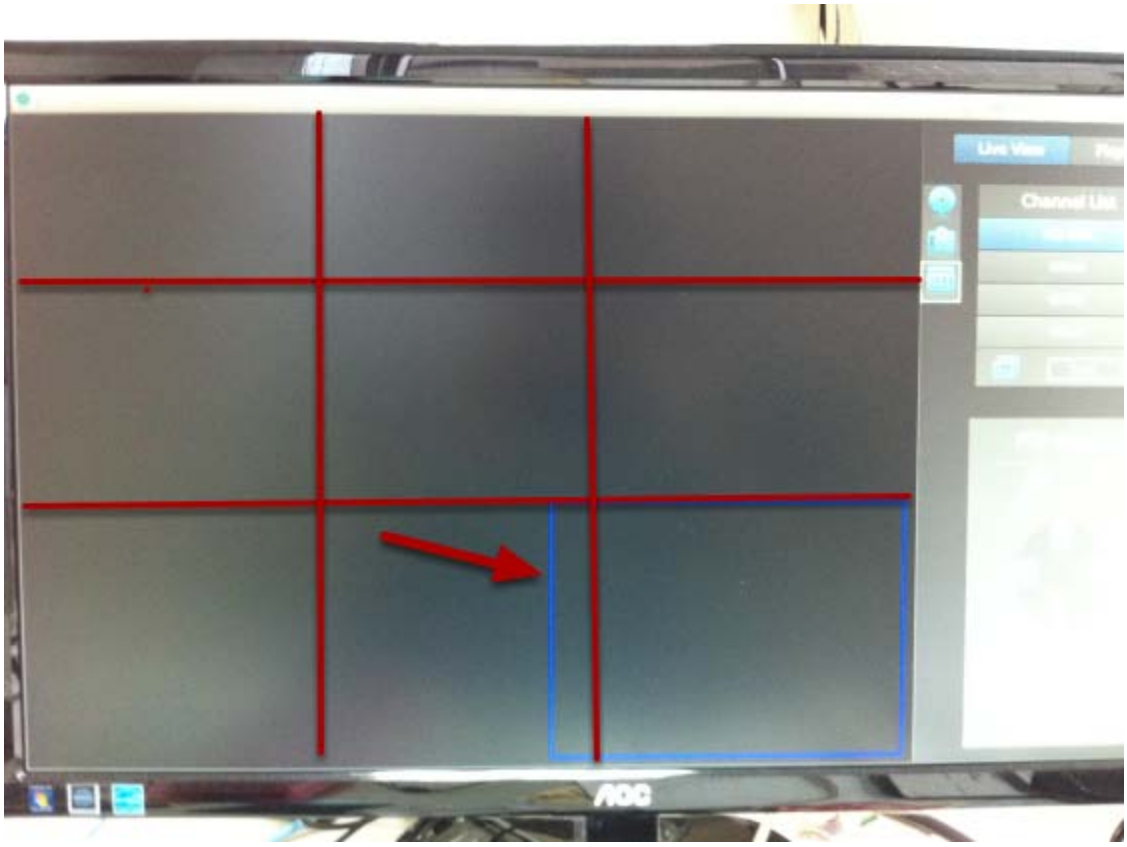
Before taking a snapshot of the live video, please make sure a FAT32 formatted USB drive is plugged into the NVR.
If you had "Manual recording" icon selected, press the "Down" button on the remote to select the "Snapshot" icon. Press the "OK" button on the remote to take a snapshot.

You should see an on-screen text notification indicating that a snapshot of the video has been taken.

PIP (Picture-in-picture) Event Video



The local UI provides live video view of 1 channel at a time. However, you can set a PIP (Picture-in-picture) area on top of the live video, which displays video of another channel when an event occurs. Once you have selected the icon shown above, press the "OK" button to set PIP area on the live video.

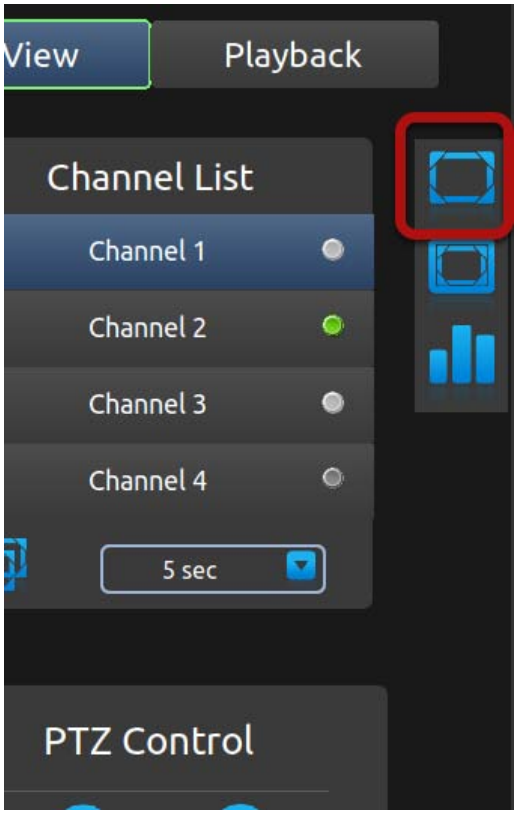


You should see an area with blue border displayed on the live video area. Use the directional buttons on the remote to select a desired area. You are able to choose from up to 9 different areas. When done, press the "OK" button on the remote to confirm selection.

Turn on Audio

The local UI is capable of playing audio coming from the camera side, but it is not turned on by default. To turn on audio from the current viewing channel, press the "AUDIO" button on the remote. Press it again to turn off the audio.

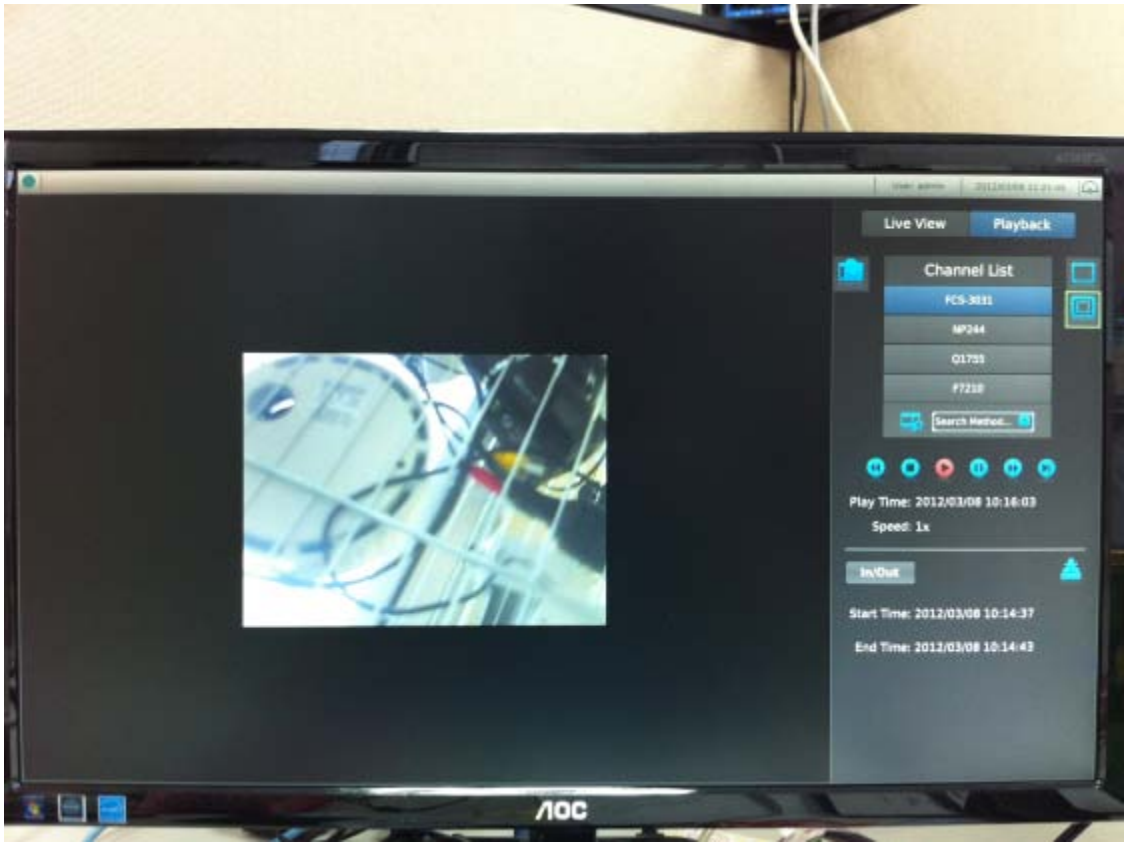
Full Screen



To view video in full screen, press the "Right" button on the remote and move the selection focus to the full screen icon (as shown above). Once selected, press the "ENTER" button on the remote to enter full screen view. Click the "BACK" button on the remote control to exit.

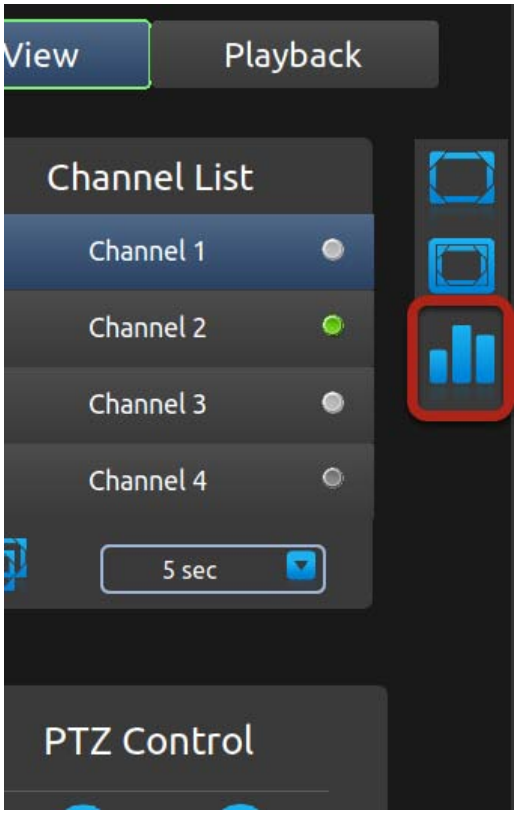
Alternatively, you can quickly go into full screen mode by pressing the "FULL SCREEN" button on the remote. Press the "BACK" button to exit.

Display video in its original size

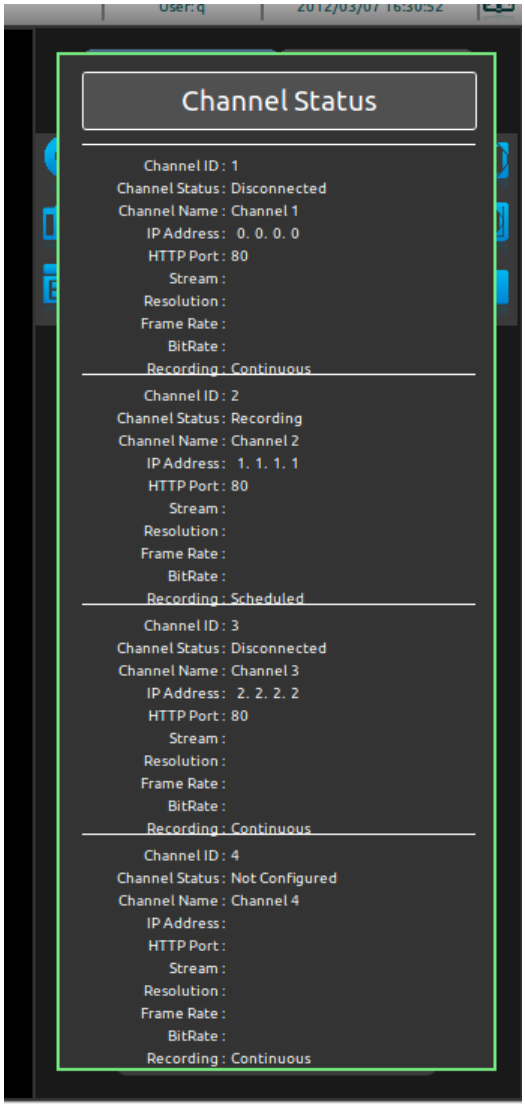


By default, the video is scaled to fill the entire video area. To view the video in its original size, select the icon shown above and press the "OK" button on the remote to display the video in its original size.

Detail channel status

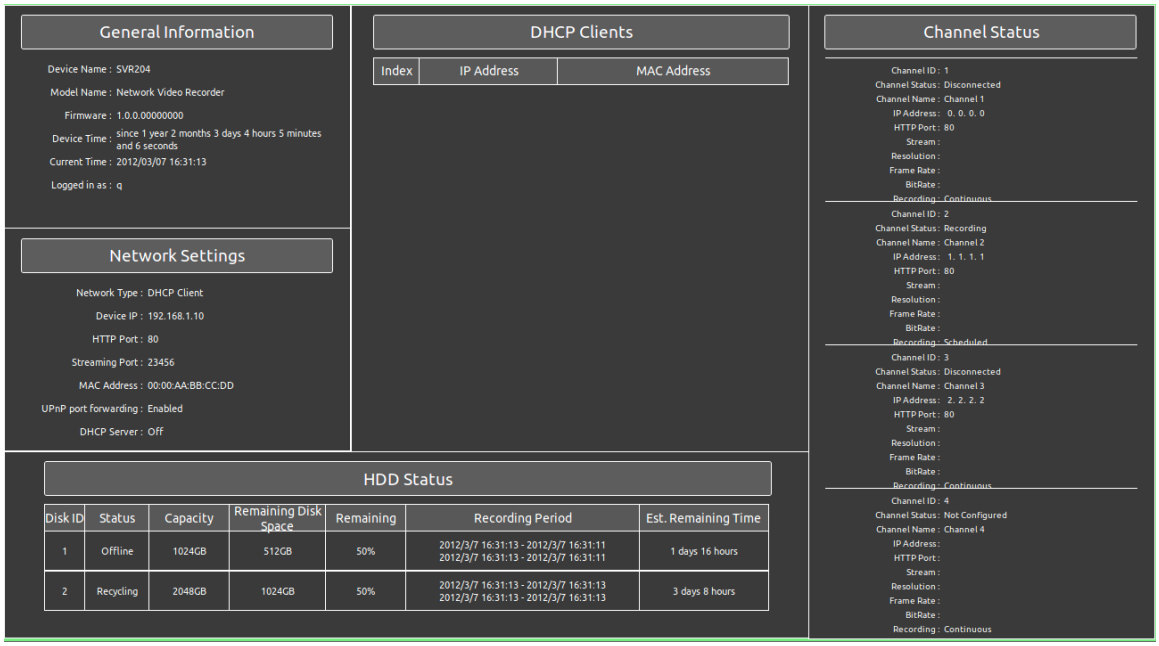


Select the icon shown above and press the "OK" button on the remote will give you a detail current status of all four channels.

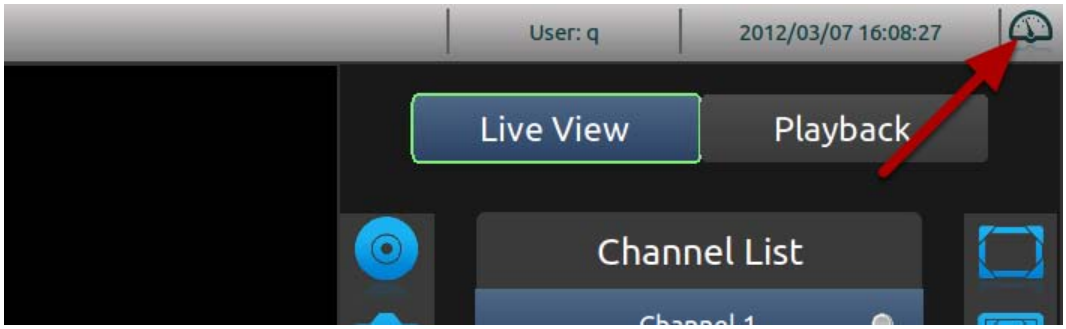


Press the "BACK" button on the remote to dock it away.

Dashboard

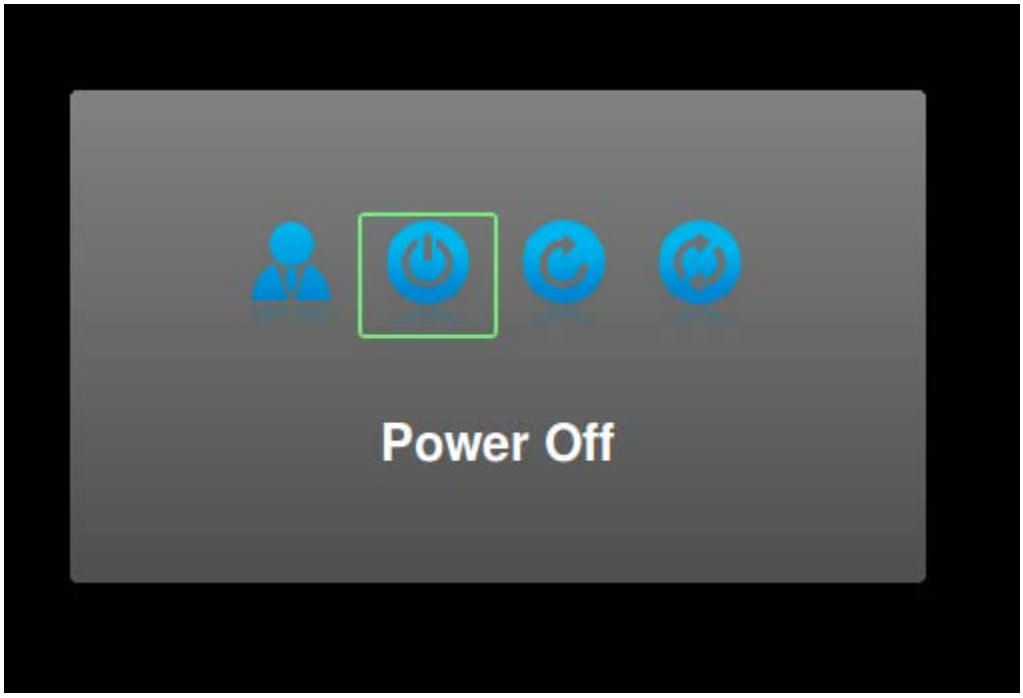


The dashboard provides a detail overview of the system wide information, such as network settings, disk status, and channel status. Press the "BACK" button on the remote to exit.



The dashboard is located in the upper-right hand corner and presses the "Up" button on the remote until the selection focus is on the dashboard icon. Press the "OK" button to enter dashboard.

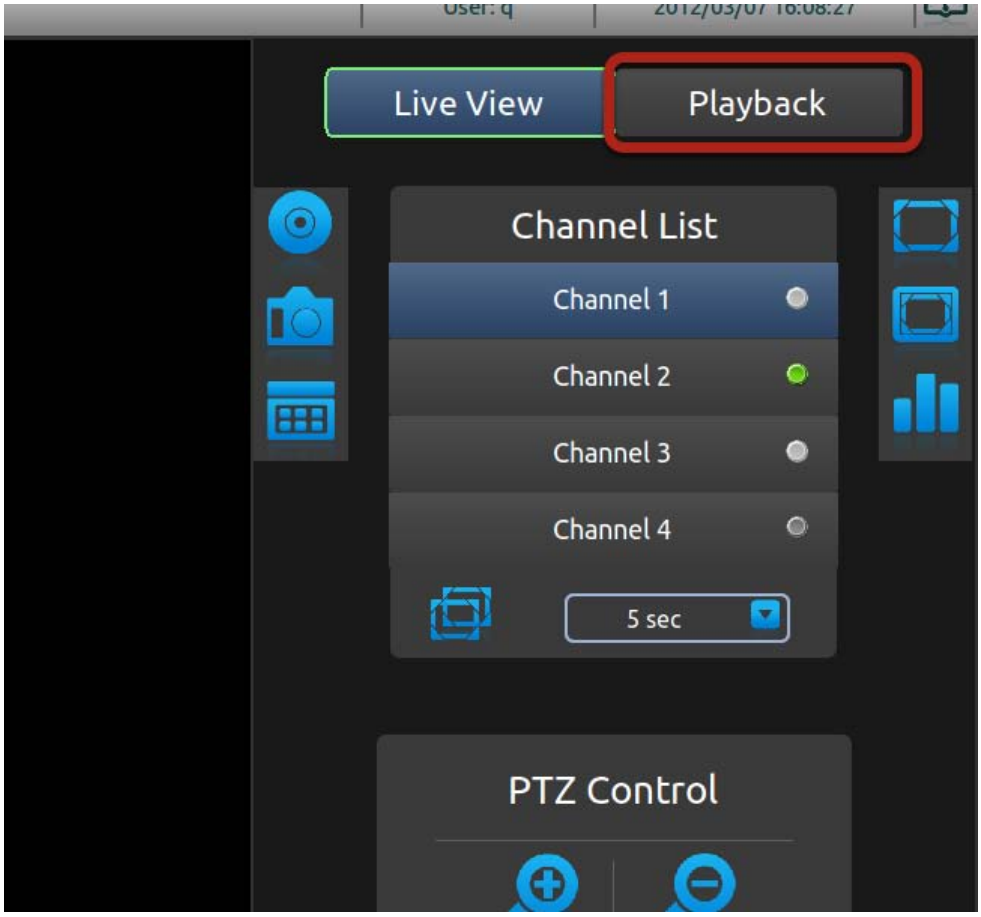
Power off



To power off the unit, press the "POWER" button on the remote. A dialog will be prompted and the "Power Off" option should be selected. Press the "OK" button on the remote to turn off the unit.
There are four options in the prompted dialog and they are (from left to right):

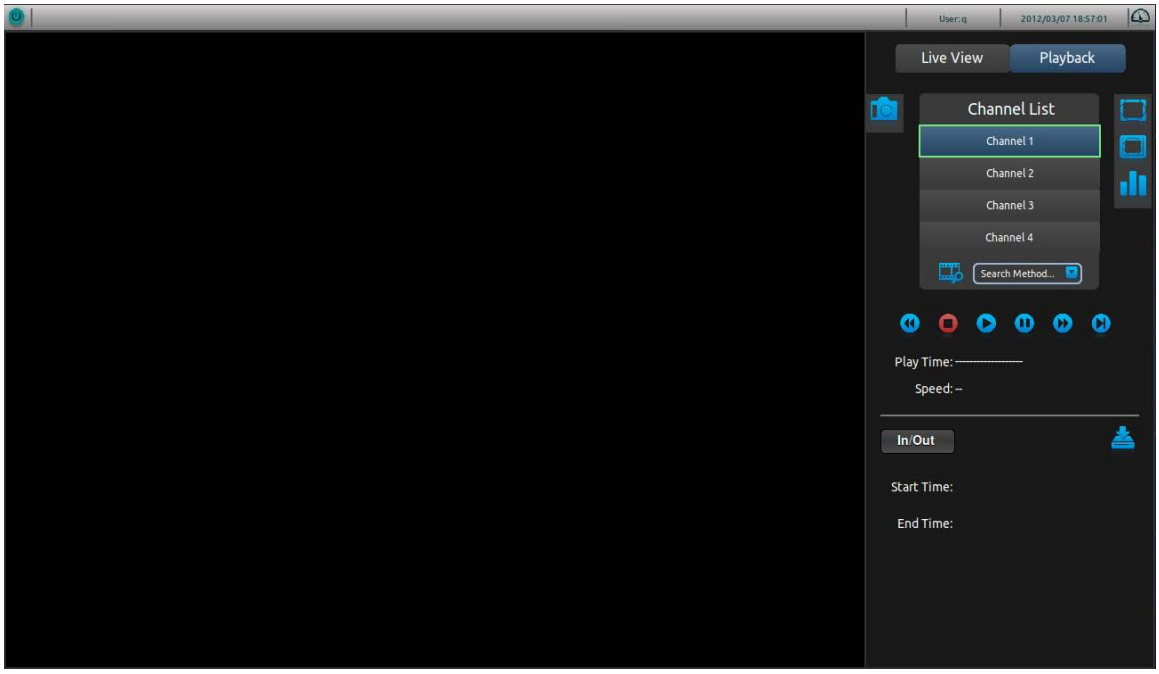
1. Log out
2. Power off
3. Restart
4. Reset to factory default

Playback



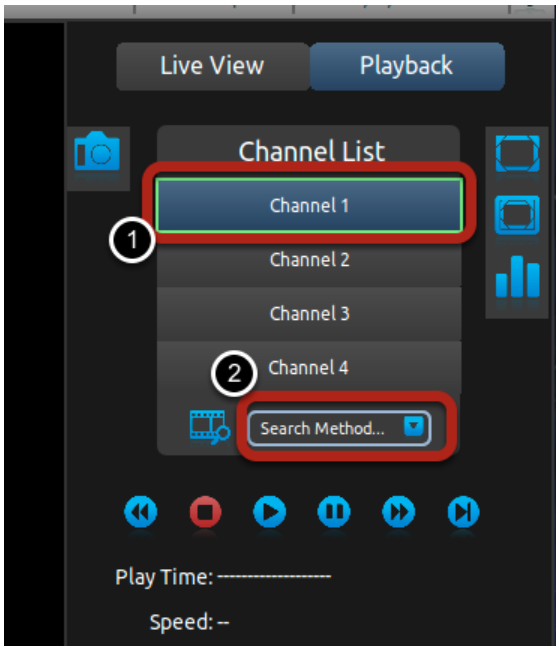
To switch to Playback, move the selection focus to the Playback button shown above and press the "OK" button on the remote.

You can always use the remote to quickly switch between Live and Playback functions

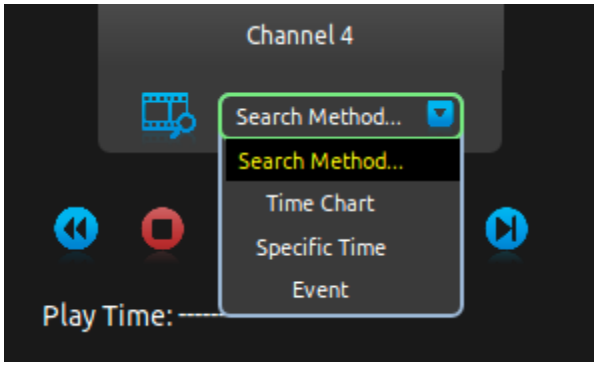


The Playback UI provides the similar layout as the live video UI. They also share the same following functions:

1. Take snapshot
2. Full screen
3. Display video in its original size
4. Channel status

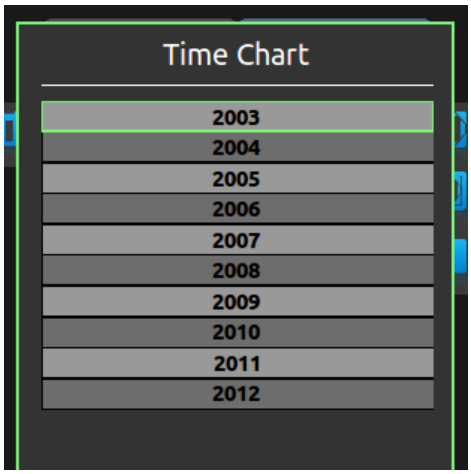


The NVR is able to play recorded video 1 channel at a time. To search for playback video, select a channel from the "Channel List" first and select a search method from the drop-down menu highlighted in the above picture.



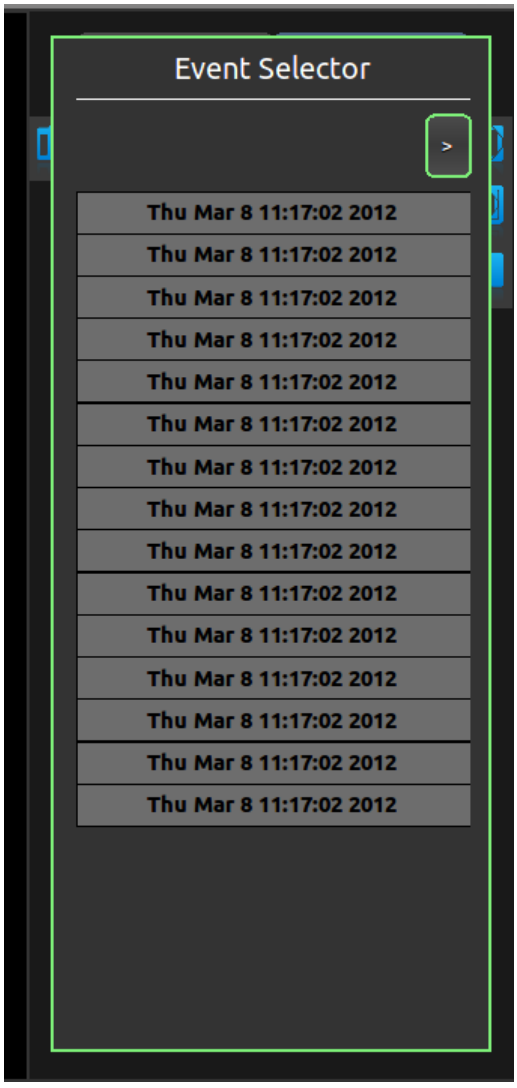
There are three different search methods to help you locate the recorded videos.

Time Chart



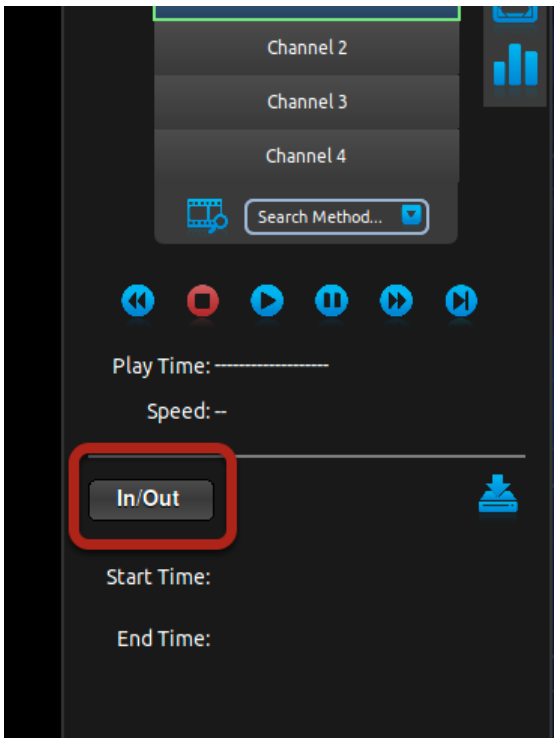
Select the "Time Chart" option will display a list in "year". Notice certain years are highlighted in dark grey, which means there are recorded data available in those years. Select one from the list and press the "OK" button on the remote will switch the list to "month" view of the selected year. Repeat the same action and it goes all the way to the "minute" view.

At any point, you can simply press the "PLAY/PAUSE" button on the remote to start playing from the earliest available footage of the current time list on the time chart.

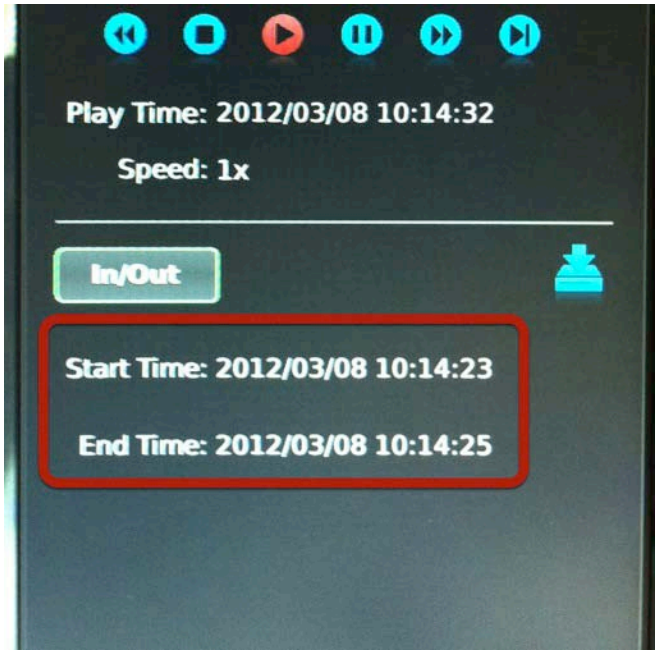


Select "Event" from the search method drop-down menu gives you a list of the 15 most recent events. Simply select one from the list and press the "OK" button on the remote to start playing.

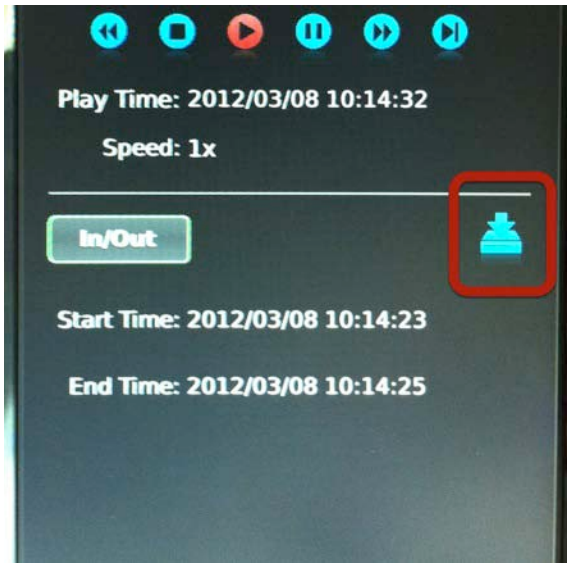
Export recorded data



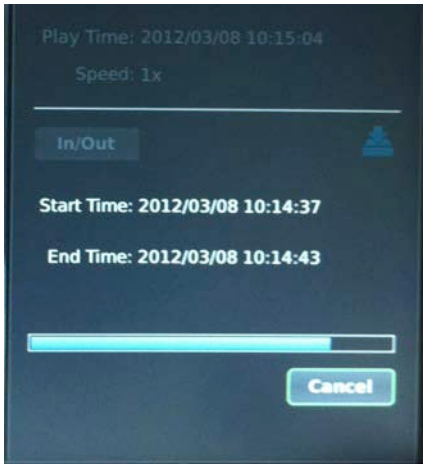
The recording data can be exported to a USB hard disk. Please connect a USB HDD to the NVR first before exporting the recording video. The export can only be done during the playback of the recorded video. During playback, select the "In/Out" button on the UI and press the "OK" button.



This sets a start time of the exported video. Press "OK" again on the "In/Out" button sets the end time. The video of this time frame will be exported.



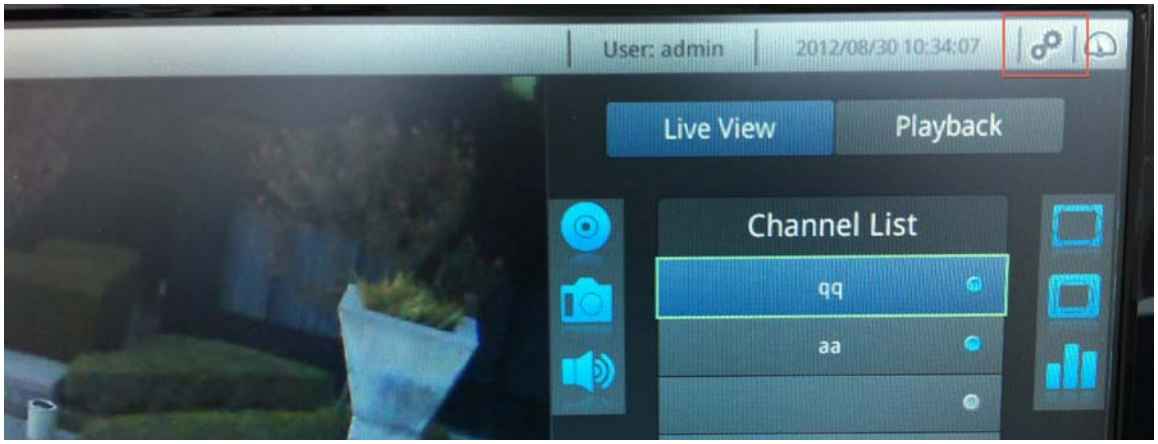
Next, press the "Right" button on the remote to select the icon highlighted above. Press the "OK" button on the remote to start exporting.



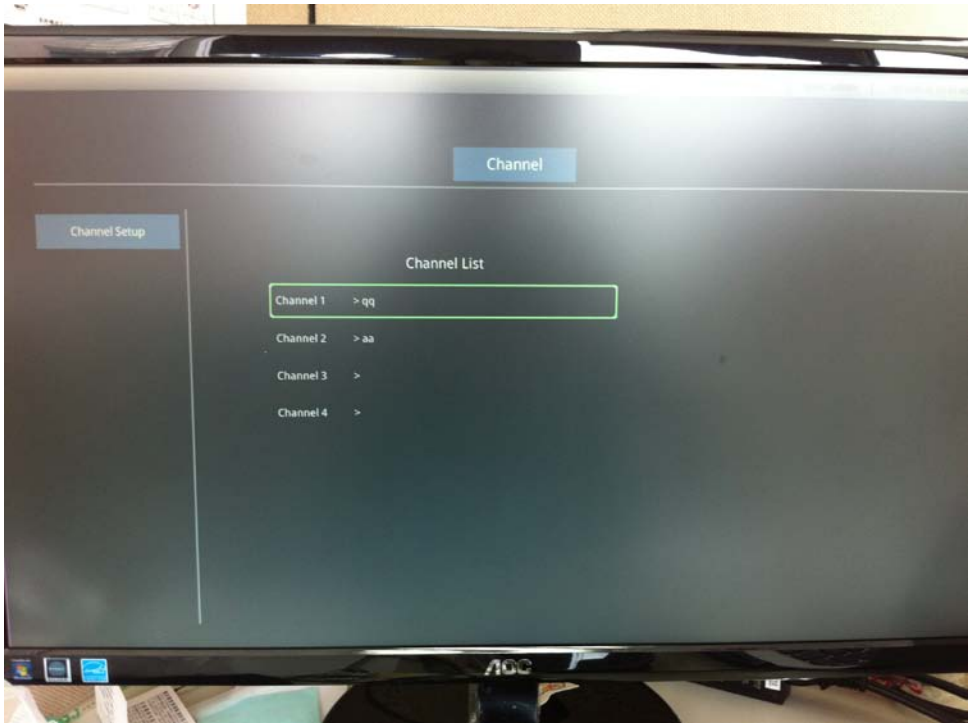
The export progress will be displayed. When done, move the USB HDD to a Windows PC and use the NVR media player to playback the exported video.

Camera Setup

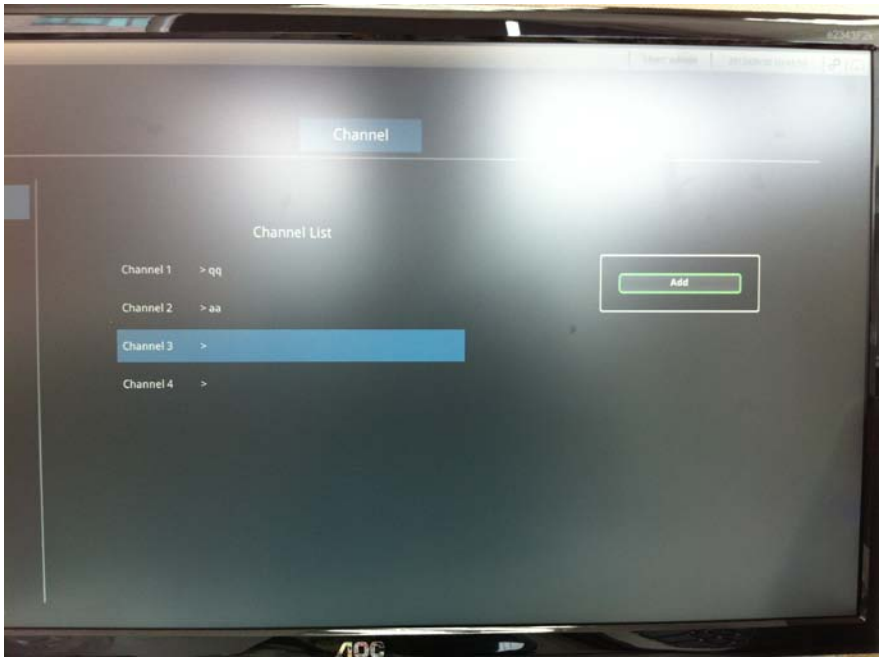
Press the "SETUP" button on the remote to access the setup page.



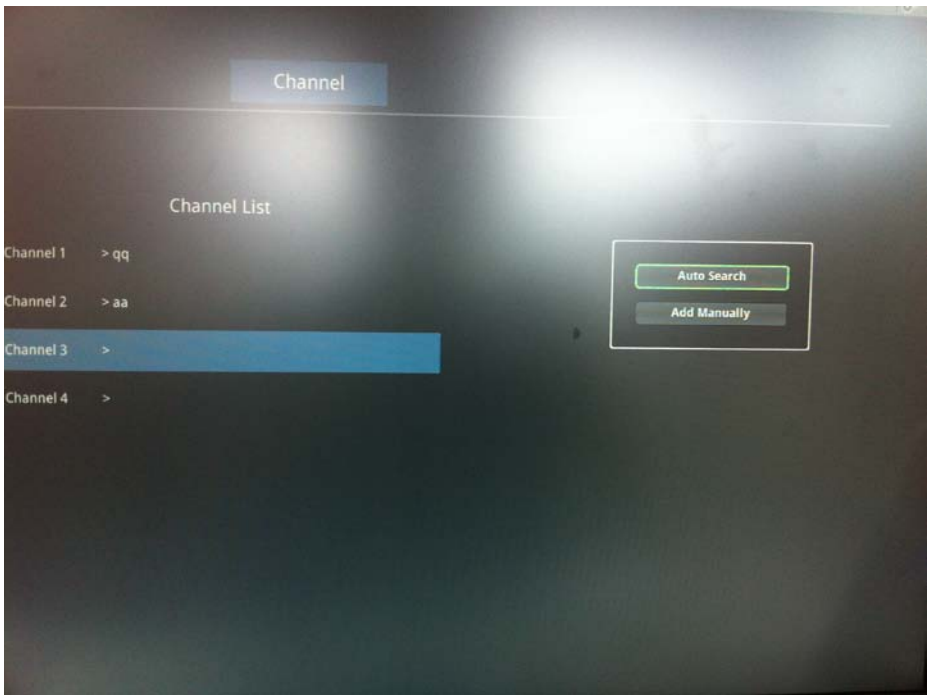
Alternatively, you can use the directional keys on the remote and select the setup icon and press "OK" to go to the setup page.



In the setup page, you are able to add, edit, and remove cameras. Select a channel and press the "OK" key to begin.

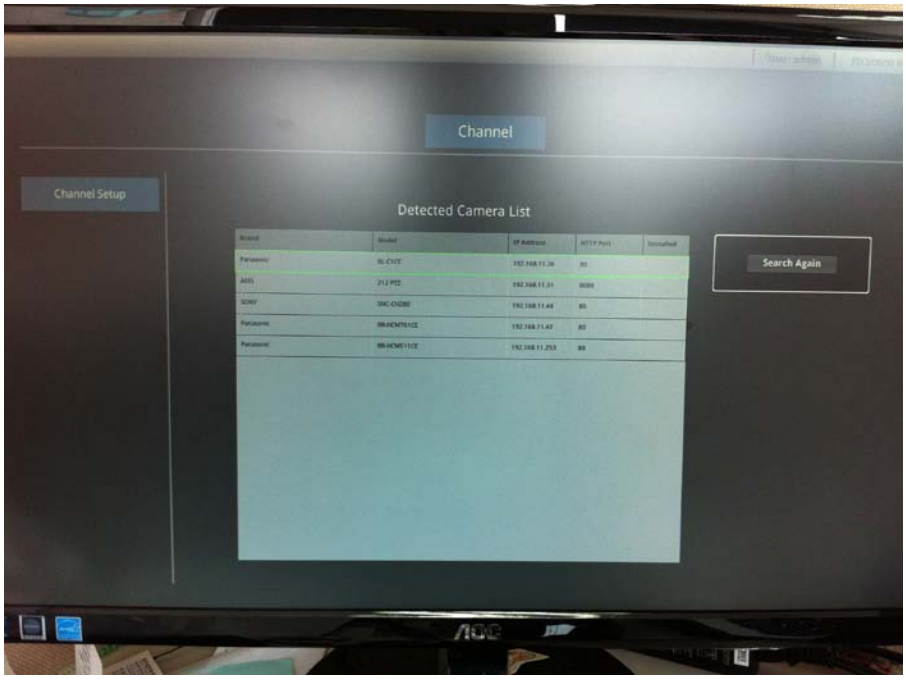


You will be presented with the "Add" action if you press the "OK" key on an empty channel. Click "OK" key again to add a new camera.

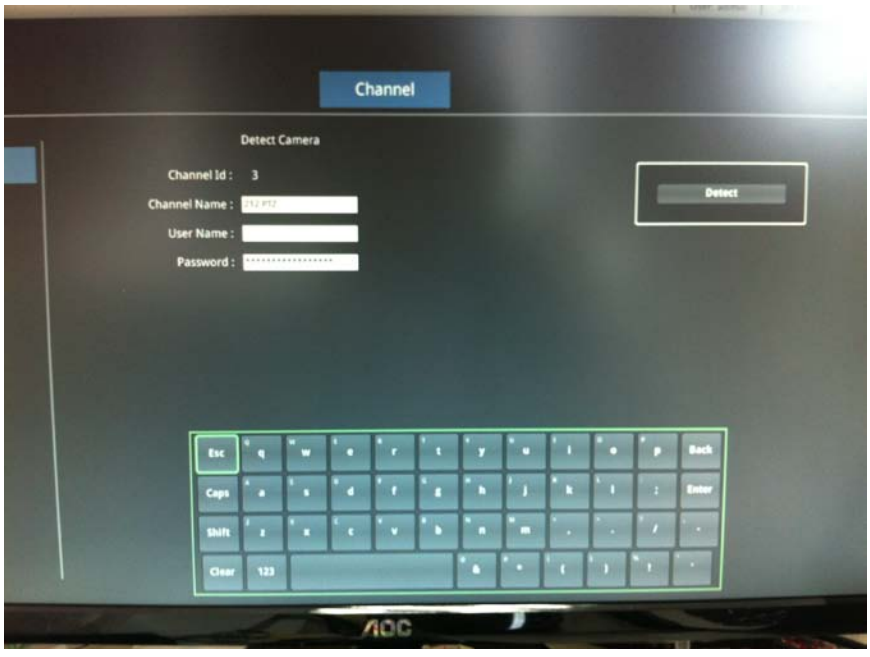


You will then be given with options to add a new camera with auto search or add one manually.

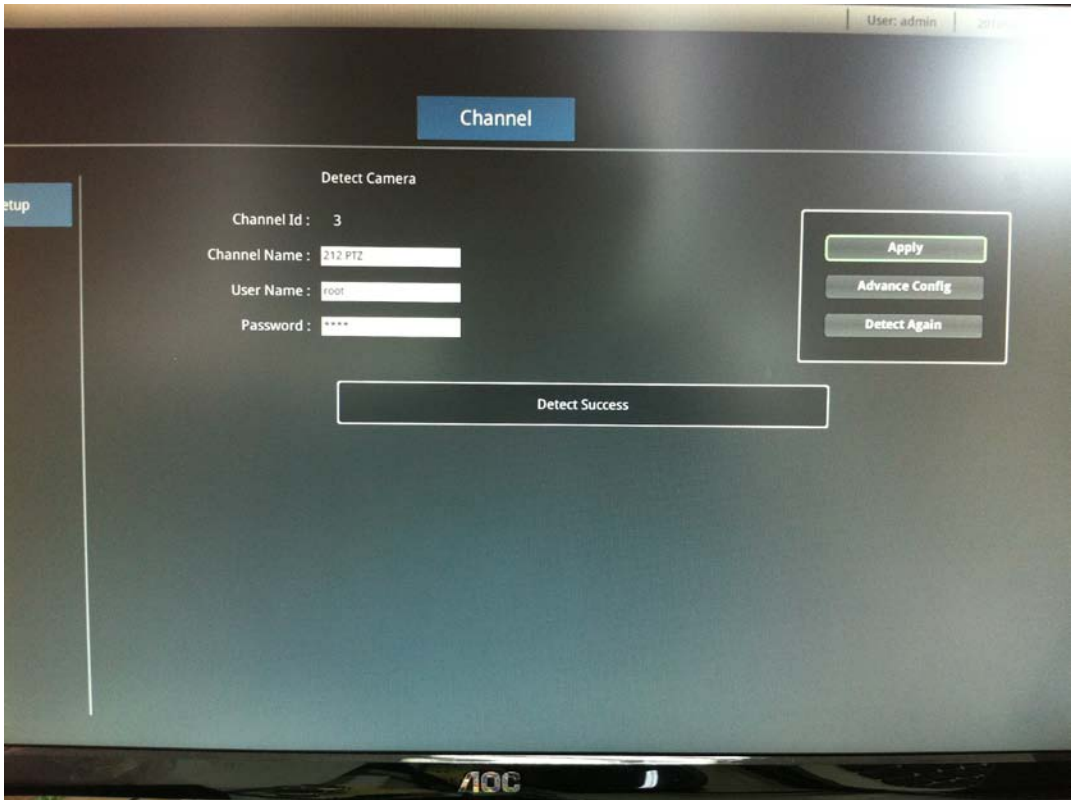
Add camera with Auto Search



A list of found cameras will be displayed if you chose to use Auto Search. Use the Up and Down key to select a camera and press the "OK" key to add it.



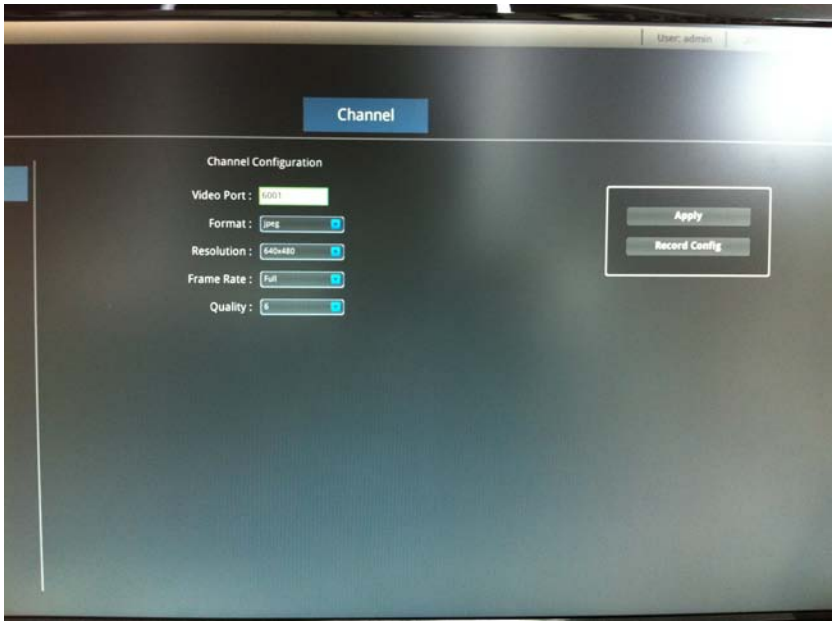
You will then be taken to the next page, which will ask you for the camera's username and password. Use the directional keys on the remote control to work with the on-screen virtual keyboard to enter them. When done, press the "OK" key to begin detection.



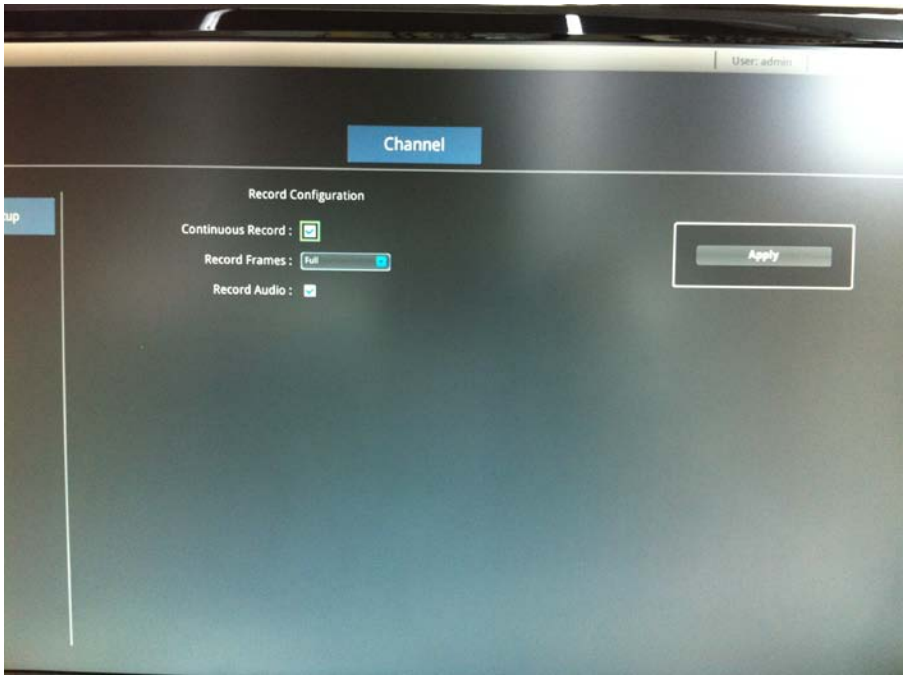
With a successful detection, you will be given options to add camera as is, or select "Advance config" to change current video settings before adding it.

You can choose to run the detection again if you get a detection error.

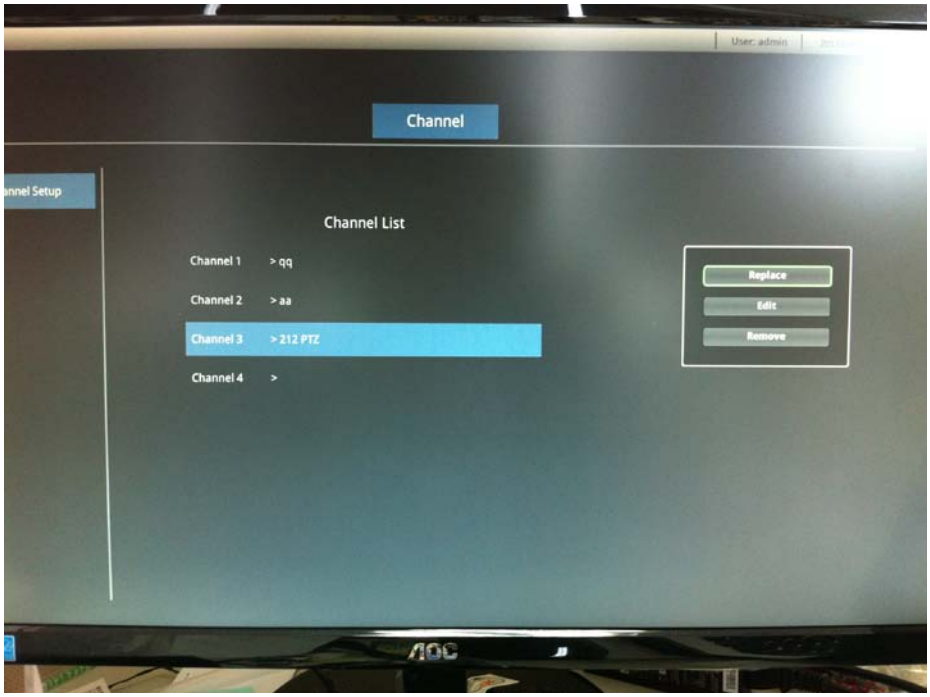
Advance Config



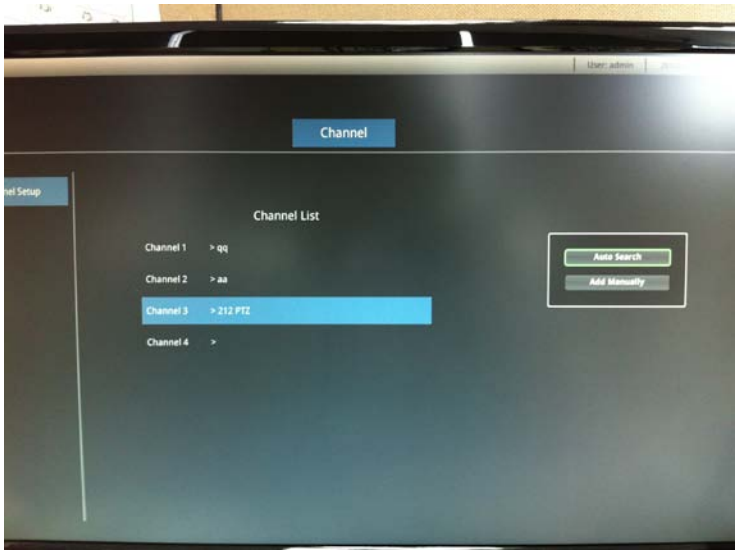
You will be able to change video settings such as video format, resolution, frame rate and video quality if you chose "Advance config".



Choose "Record config" before applying the setting allows you to enable continuous recording and its recording quality as soon as the camera is added. Press the "OK" key on the Apply button to finish.



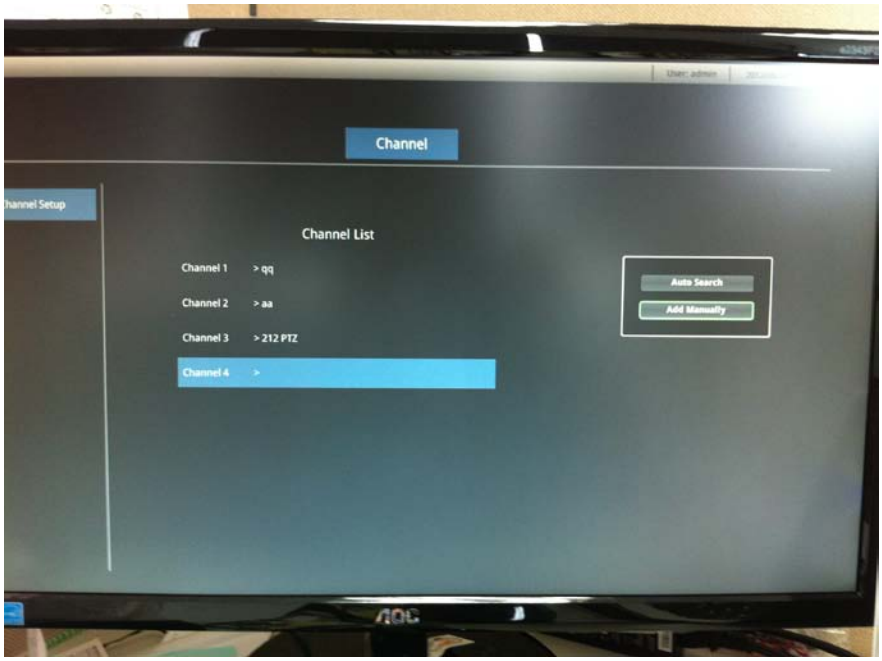
You will be taken back to the Channel List after successfully adding a camera.
Press the "OK" key on a channel with a camera already added will give you the option to replace camera on this channel, edit the settings of this channel, or remove the camera.



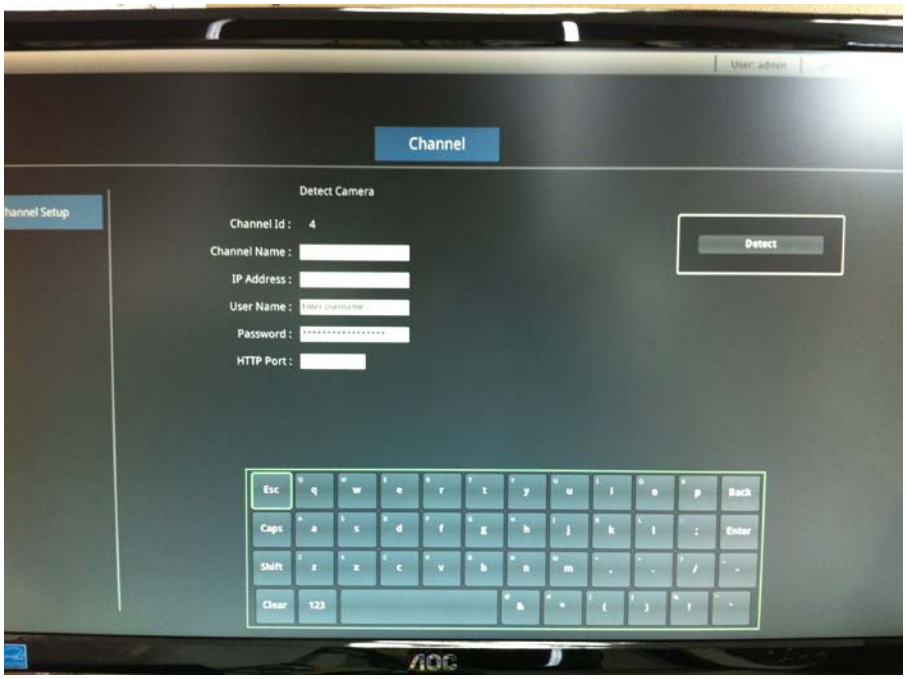
Choose "Replace" will allow you to add a new camera to this channel manually or with Auto Search.

Choose "Edit" will take you back to the beginning of the channel configuration page to start over settings again.

Add camera manually



To add a camera manually, select an empty channel from the list and press the "O" key on the remote control.
Press the "OK" key again on the "Add manually" option.



Enter camera's IP address, username and password as well as its HTTP port with the virtual keyboard to finish the process.

Specifications

Hardware	
CPU & Memory	Media processor / 512MB DDR2 RAM
Ethernet	10BaseT/100BaseTX/1000Base-T and half duplex/full duplex auto-negotiation
Built- in HDD	SATA : (ESV4-1T) 1TB HDD *1 Max. Capacity : 3TB
Internal HDD port (HDD is NOT supplied.)	SATA HDD *1 Max. Capacity: 3TB
LED indicator	Power/HDD/Channel
Switches	Reset/Power
Connectors	USB*2, Audio and Video (NTSC composit video, line-out), HDMI,
Power	NVR : (INPUT) DC 12V 4A AC adapter : (INPUT)AC 100-240V , (OUTPUT) DC 12V 4A
Dimensions	213 x 80 x 150mm (8.4 x 3.1 x 5.9 inch)
Weight	1.3 kg (2.8 lb)
Operting temperature and Humidity	41 to 104 deg K (5 to 40 deg C) 10% to 80% , non-condensing
Strage temperature and Humidity	14 to 158 deg K (-10 to 70 deg C) 5% to 90% , non-condensing
Radio Standard	(Radio) FCC Class A
Software	
Camera search	Manual/AUTO (Smart Camera Search supports measure camera brands.)
Camera setup items	Name, IP address (Build in DHCP server to assign IP address to cameras automatically), video format, resolution, fps
Max. Camera number	4CH
Camera status display	fps, resolution, bandwidth, IP address
Video	
Compliant codec system	MJPEG/MPEG-4/H.264
Max. Resolution	2 MP (Full HD)
Max. Recording Frame Rate	120 FPS (Full-HD, H.264)
Max. Bitrate	Max. 40Mbps
Audio	
Direction	(web)Two-way , (local) One-way
Live View	
Display Mode	Live View/Full Screen/Playback
Split Screen	(web) 1 and 4, (local) 1
PTZ Camera Support	Virtual PTZ Panel/Auto Pan/Preset Sequence/Digital PTZ
Video Snapshot	JPEG format
Camera status display	Connection / Recoding / Event
Map function	Local-Map / Google Map
Mobile Device support	Built-in browser ,or App for iPhone and Android

Playback	
Split Screen	(web) 1 and 4, (local) 1
Search Method	Time/Date, Event
Playback Controls	Play/Pause/Stop/Forward/Reverse/Frame by Frame
Export video format	AVI
Video Snapshot	JPEG format
Recording	
Recording Mode	Manual / Continuous / Scheduling / Event
Type of Scheduling	Manual Select / Profile-based / Weekly Mode
Recording fps	H.264 & MPEG4: I frame / FULL frame MJPEG: 1/5/10/15/20/FULL frames
Storage period	1~365 days
Network	
Protocols	HTTP/SMTP/DHCP/ARP/NTP/DNS/UPnP/FTP
DDNS	DynDNS
User Management	
Management	User / Group
Number of Groups	7 (Administrator/Guest/User Define*5)
Privileges	Live View/Playback/System Configurations/Camera Configurations/Recording Configuration/Event Configuration/System Maintenance
Trigger & Events	
Events	System Events -- System Start, System Settings modified, Camera Settings Modified, Start Recycle, Disk Fail, camera status, HDD remaining space Camera Events -- Motion/Sensor Detection
Event Actions	Mail / FTP / Recording
Event Recording	Pre / Post Event Settings
Bundle software	
Central Management SW	Free bundled (256CH "CMS Basic")
NVR search SW	Free bundled (NVR search)
Log	
Log Types	Alert / Event / User Access
Systems	
Minimum Requirements	CPU: Intel® Core™ 2 Duo: 2.4GHz or higher RAM: 2GB Network: 100 Megabit Network Interface or above Microsoft® Internet Explorer® version 8 or above
General	
Language	(web) English / Trad. Chinese / Simp. Chinese / Japanese / Italian / Spanish / Portuguese / German / Danish / Czech / Polish / French / Russian / Slovene /Hungarian (local) English
Package contents	NVR (with HDD), CD-ROM, QIG, Warranty Card, Power code, LAN cable AC adapter, Screws (pan head x8)

● Designs and specifications may change without prior notice for better improvement.

● Screens, photos, illustrations and other diagrams contained in this user's manual may slightly change from actual ones.

Technology license Notice

About the software

This product contains a piece of software licensed to TOSHIBA CORPORATION (hereafter TOSHIBA) by a third party. The copyright and other intellectual property rights of the software are held by this third party or the licensor. The software is protected by the Copyright Law, Universal Copyright Convention, and other intellectual property laws and agreements. The permission of Toshiba and the third party must therefore be obtained before the software can be reproduced. Contact Toshiba if you need it for more information at http://www.toshibasecurity.com/support/firmware.jsp.

End-user License Agreement on Free Software Components Used in the Network Video Recorder

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all. The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion

of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and those users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, does not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.
In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy an d distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a
written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a

whole is intended to apply in other circumstances.
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.
This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.